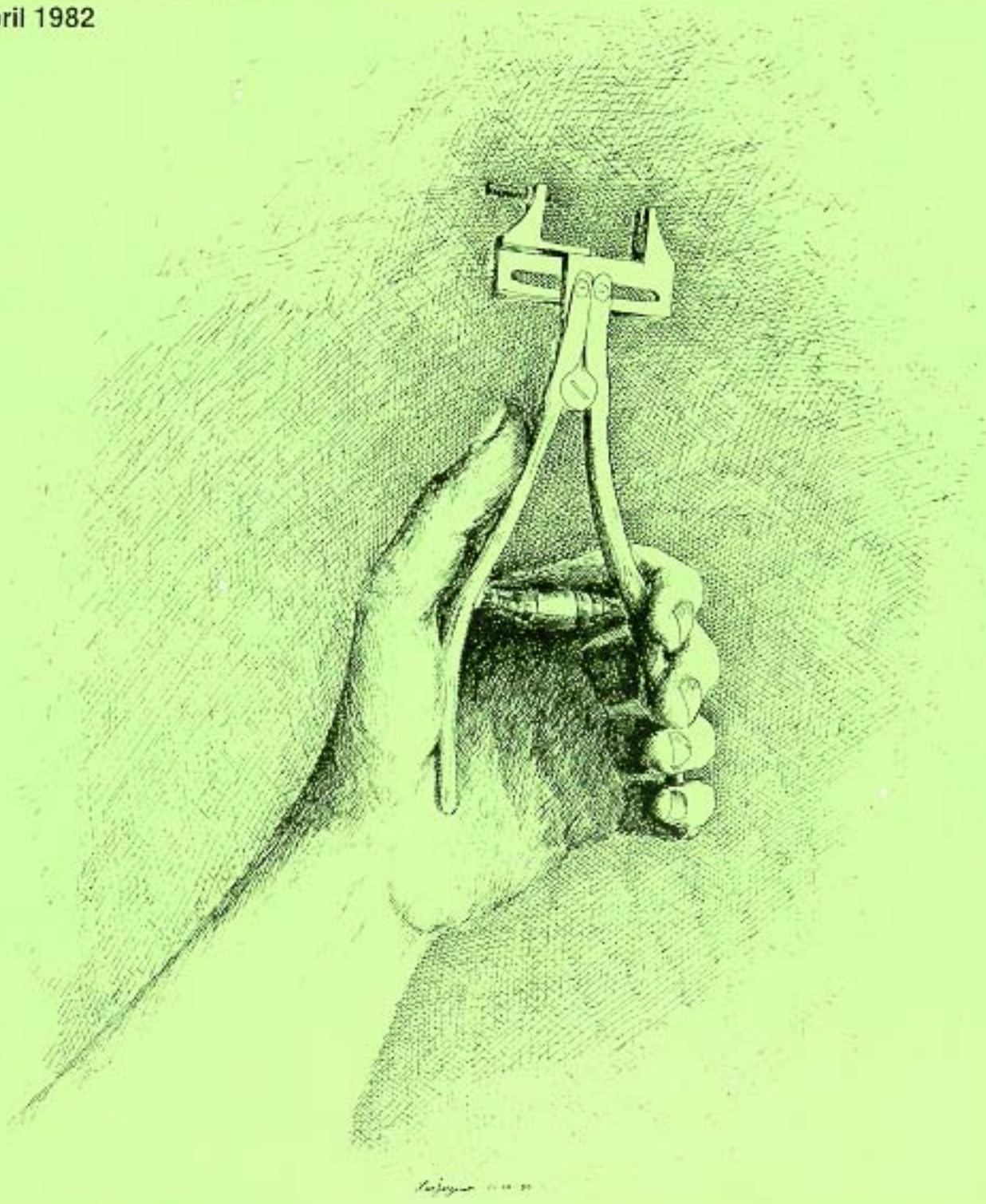
Piano Technicians Journal

April 1982



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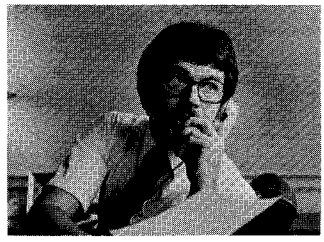

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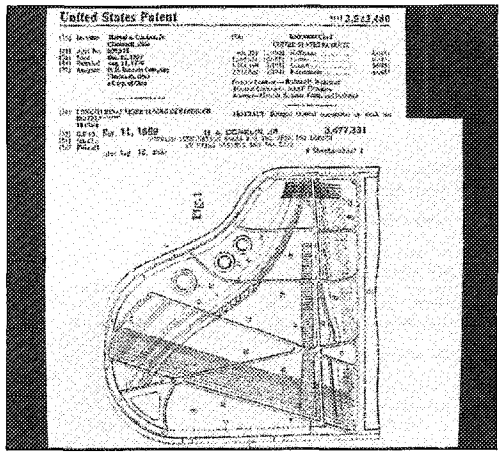

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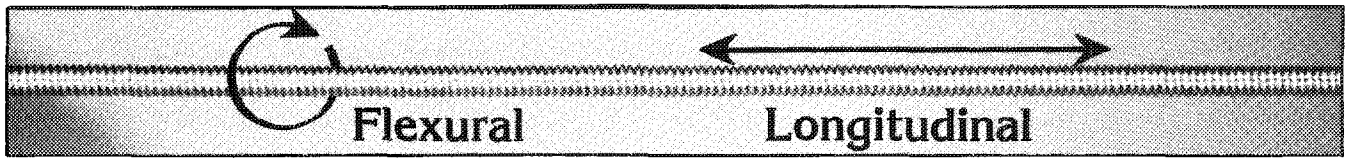

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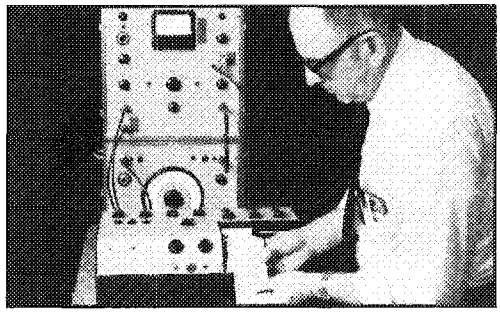

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Piano Technicians Journal

Official Publication of the Piano Technicians Guild

April 1982
Volume 25, Number 4

Journal Staff

DON L. SANTY, Executive Editor
JACK KREFTING, Technical Editor
AILSA THOMPSON, Update Editor
PATTY CONNELL, Managing Editor, Art Director
GEORGE DEFEBAUGH, Recorded Reader

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COVER . . . This excellent illustration of piano tools was sent to us by Les Jorgensen, a Registered Technician from East Lansing, Michigan. Information on prints used on the cover of the Piano Technicians Journal, contact Mr. Jorgensen, at 1135 Sunset Lane, East Lansing, MI 48823.

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The Importance of Snowballing

Ron Berry

Chairman, Examinations and Test Standards Committee

Now that the new tuning test has been official for a little more than one year, we have about 100 hundred people who have been qualified as Certified Tuning Examiners. The chances are that one or more of these people are members of your chapter. In fact,you have probably appointed your local CTE's to your chapter examining committee. That's great . . . but don't forget to snowball for the future.

In the future we are going to need new CTE's to replace the ones we have now. No one wants to serve in the same capacity year after year. Now is the time for you to begin looking around to see who should be getting CTE training in your chapter. Maybe it is you!

Who can train a CTE? Another CTE. And it can be done on a local level.

After a person has passed the test with a rating of at least 90% in each category, he needs to learn all the procedures involved in running the test from troubleshooting the equipment to saying the right kind of thing to the applicant. Once the "old" CTE feels the new trainee is fully trained, it is time to contact the Examinations and Test Standards Committee so the person's name can be cleared for presentation to the Board of Directors. When the Board meets (twice a year), they review the names of any prospective CTE's and give their stamp of approval. Then it becomes official and your chapter has another CTE or two to share the workload.

This is what we mean by snowballing — CTE's training more CTE's — and it is a great way to train more examiners to meet future needs.

EDITORIAL

Don L. Santy
Executive Editor

On July 7, 1958, members of the Guild descended on Washington, D. C., from throughout the land, for the FIRST annual convention of the newly-formed organization. Leadership at that time included familiar figures in the world of piano technology. Co-interim presidents of the Guild were John Travis and Erroll Crowl. They represented the merging of the two existing piano technician associations at that time – the National Association of Piano Tuners and the American Society of Piano Technicians. George Lockhart had been president of the latter group.

The first convention officials were John Travis and Wendell Eaton, along with Ulys Rogers, who is now deceased. A strong chapter of willing members in Washington, D.C. was host.

This year we are most fortunate to have the same situation. John Travis and Wendell Eaton, supported by Ruth Ann Jordan and Chapter President, Carlos Ralon, and backed by an enthusiastic group of members, are all devoting their time and efforts to make the 1982 Twenty-fifth Anniversary Convention in Washington, D.C., a worthwhile and memorable experience for all attendees.

We find that now twenty-five years later the Guild has become the largest organization of its kind in the world. It has grown, multiplying four times since that first convention.

The Guild is recognized throughout the world as the center of the piano technology activity and is still growing in prestige and impact.

Annual conventions have played a leading role in this progress. It is the one time during the year when technicians can confront one another, share skills, experiences, and fellowship on an INTERNATIONAL scale. This year, we anticipate having technicians from China, England, Germany, and Japan join with us. Canada, as always, will be well represented, as will most of the States

The Guild is unique in that almost 18% of the members particpate in their conventions. Most organizations are hard pressed to get at least 10 to 12% to such conclaves. It is my personal belief that, when people complain of the cost involved, they are overlooking the profit level of having such an experience. Professional growth and development are necessary ingredients in business, particularly in a business that requires so much skill and training. Participation in a professional society makes the difference between a job and a career. Regardless of whether the convention is on the coast or in the middle of the country, somebody is going to have to pay more than somebody else to get there.People don't fail to attend conventions because of the cost. Usually, they don't attend because they don't think they'll get anything out of it. This, of course, has been proven to be a false assumption many times over.

Conventions are a legitimate business expense. They are also a business benefit. They fall into the same category as health plans, insurance programs, and professional education. An article in the Northern Virginia Chapter Newsletter, written by the president, **Gene Elfes**, caught my eye last week. It reads as follows:

"Does the present economic situation scare you? It is no secret that the cost of food, housing, medical, transportation, and anything else one cares to mention has risen drastically in recent years. The dollar we earn today no longer buys what yesterday's dollar did, and tomorrow's dollar will probably purchase less. Meanwhile, we have to look out for 'number one,' ourselves, and our family.

For those of us who are self-employed, it would be wise to examine the "benefits" we provide ouselves. Do we have a medical plan, disability insurance, retirement plan, and "paid" vacation? Can we afford to replace our tools, should they be stolen?

If we answer negatively to any of the above, we are not adequately looking out for 'number one.' Assuming our volume of business is enough to fill our daily schedules, but the funds are **not** *available to pay ourselves a decent salary and benefits, we should seriously consider giving ourselves a raise. To do so, we have to continually evaluate our financial situations and our fees, and adjust them accordingly.*

Only ourselves are best qualified to look out for 'number one.'"

I recently heard a comment that "the Guild's conventions are of the 'elite,' " which I find incongruous. Attendees come from all walks of life, by air, car, rail, and by thumb. They come alone or with families and friends. They may stay at the headquarters hotel, splurge, and "live it up," or if they feel they can't afford it, they stay in less expensive places. Some members consider it a good enough investment to borrow money, if necessary, to attend. It's not the money, it's the professional attitude and the desire to improve and upgrade themselves and their profession that brings them together. Ironically, I note that those, who are sometimes the most critical, don't show up even when the convention site is in their own backyard. This should tell us something.

I wish to share an article on association participation, which I think you'll find amusing:

REFLECTIONS ON ASSOCIATION MEMBERSHIP

There is an old story about a man who practiced a profession 55 years but never became a member of his profession's association. Yet, at the time of his death, it was noted that his will directed that only association members serve as pallbearers at his funeral. After some effort, enough association members were gathered to carry the man's body to its final resting place. Following the funeral, the minister remarked to one of the pallbearers, "I note that all of you are members of the professional association and yet the deceased was never a member. Isn't that a bit unusual?" "Well, we figured that, since the association carried him all his working life, we might as well finish the job and carry him the rest of the way!"

Letters To The Editor

Dear Mr. Santy:

Hurrah for you.

I hope everyone that reads the January issue of the *Journal* will digest your editorial.

Not too long ago a doctor who was instructing student nurses made a similar suggestion to his large class in the Franklin County Hospital in Greenfield, Mass. He said, "Appearance lends Trust or Distrust."

In my opinion nothing is much more Sacred than Music. Therefore every technician should, out of respect to his profession and his customers,if for no other reason, have frequent hair cuts, and dress in keeping with the profession he represents.

This will double the number of service calls like nothing else. This is not realized by or understood by some unfortunate souls who crave to attract attention by being different.

A salesman's best asset is his appearance. ARE WE NOT ALL SALESMEN?

Sincerely,
Erroll P. Crowl,
Past Co-Pres., Piano Technicians Guild

Dennis Kurk in the December 1981 Journal raises some questions about the Piano Technicians Guild tuning exam to which I must respond. Dennis mentions the fact that one tuner can take the exam on different occasions and score rather differently. All angles for why this might happen were covered except for one obvious possibility. I don't believe any tuner is always at his/her 100% best at every tuning. I have had off days where I felt my tunings were not as good as they should be. Especially in an exam situation some people react adversely to the pressure. An exam can be a nervous situation and I have seen some people actually quit in the middle of the tuning, because they were too nervous to function. Others who are over-confident, and don't even use the full amount of time allotted for tuning are often surprised at the results.

Dennis goes on to cover all sorts of possibilities for why a piano could go out of tune and change. These are certainly possible. I don't believe that they create nearly as much variability in the testing situation as was created by examiners deciding whether or not they liked the sound. Our experience shows that our master tunings have a great deal of consistency. We have saved all the master tuning charts from all the pianos we have worked on the last few years. We took 9 masters set up on the same model piano by different groups of tuners in different parts of the country. By scoring one against the other they would come up with all 100%'s with only one or two 98's or 99's. The worst score was a 92 in the bass on a piano which had been restrung with bass strings of a different manufacturer. I believe this indicates a great deal of consistency. In our chapter we have had the same group master tune a piano a second time and the result was all 100%'s. This is not to say that the master tunings were identical. There were variations but none were great enough to be outside the tolerance used in grading a test. All this has been mentioned before in a letter from Jim Coleman in the June 1981 *Journal*.

The most important factor to remember is that any note pointed out by the computer as being outside the allowed tolerance is checked aurally. No point is ever taken off unless the examiners are satisfied that there are at least three aural tests proving the note could be improved.

Dennis ends up commenting on how cumbersome this test is. Any new system requires learning and experience. An experienced examiner can measure, score, and counsel the applicant on how to improve the areas pointed out by the test in about two hours after the applicant has spent his two hours tuning the piano. In our chapter, we all go to dinner during the two-hour tuning time and leave the applicant to work. We have found that it always took us about two hours testing the old way by the time each examiner looked over the piano, and figured out how to grade it. Then the group of examiners discussed the tuning with the applicant. I, for one, feel that the new test is easier for me because it removes much of the responsibility from the examiner. We now have an objective system to fairly grade all applicants in the same way.

Ron Berry,
Chairman, Examinations and Test Standards Committee

PRESIDENT'S MESSAGE

Sid Stone, President

The 1982 mid-term board meeting has come and gone. By the time you receive this Journal you may have heard from your Regional Vice President what transpired. The RVPs' letters to chapters should be read in the chapter meetings to keep the membership informed as to what's going on.

Of special concern to the board was membership growth and the new tuning examination. In 1980 we had 431 new members, and in 1981 only 338. However, there is a large number of applicants waiting to be examined — some have waited two years or more.

After considerable effort on the part of the Examinations and Test Standards Committee, the CTEs and the Board, the new tuning exam got off the ground, but it needs a renewed effort to keep it flying. Perhaps we should have anticipated a letdown after the initial launching and prepared for that. We need to restore some of the initial enthusiasm we may have lost.

The board has directed that all CTEs be sent "Consent to Serve" forms. This may be the encouragement or motivation needed in some cases. Even more important, though, is the encouragement on the chapter level. One suggestion came from CTE John Wiley: If the CTE is made the examination chairman in his own chapter, he will be able to coordinate all phases of the examination. He would still administer the tuning part of the exam but would have the authority to designate other members to conduct the written and bench tests as well as the old tuning test for apprentice classification. Some chapters still may be unaware that they can give an aural tuning test (see Guild Regulation Art. IV, par "c", sub. par. 3a).

Chapter achievement can also be brought about by other ways listed on the "Chapter Achievement" forms. Those chapters who take the time to fill out and send in these monthly reports often are surprised at how much they really are accomplishing. If *one* person in each chapter is appointed to send in these forms, he or she may be responsible for that chapter receiving a special award at convention time.

There were several other items brought up at the board meeting (perhaps more agenda items than ever before) with a total of some 300 man hours spent on Piano Technicians Guild business. I know of no officer who regretted giving his time in service to the Piano Technicians Guild. Some of us have spent as much time on Guild business as we have on our own piano service business whether it be away from home attending meetings or at home on the telephone and at the typewriter planning and preparing. There are times when one or the other has suffered, and perhaps that is to be expected. Fortunately, the vast majority of Piano Technicians Guild members are sympathetic and understanding. This is appreciated by all the officers.

We would also appreciate your helping make the 25th Anniversary Piano Technicians Guild Convention the biggest and best yet. Now is the time to talk about the 1982 convention in Washington, D.C., to start saving for it and to plan to be a part of this great event. *See you there.*

KNOW YOUR OFFICERS

Marshall B. Hawkins, Southeast Regional Vice President

Quite a few years passed before Marshall Hawkins felt as comfortable with a tuning hammer in his hand as he did with a conductor's baton.

Years spent in the U.S. Navy as a Band Director left tuning pianos to be somewhat of a sideline. His interest in tuning came about after 5 or 6 years in the Navy as an instrumentalist. One of his instruments was vibraharp. This put Marshall in the position of having to frequently perform with very out-of-tune pianos, and this is where it all started.

Before long, the challenge of tuning the entire piano presented itself, after which he stated "The piano sounded rather bad". Evidently being trained as a music educator and a band director did not transfer directly to tuning pianos, so Marshall sought out piano technicians to assist with this part of his education.

Although this led to association with the Piano Technicians Guild people, membership did not occur until some time later.

After serving seven years on the staff at the Navy School of Music as supervisor for student band directors, Marshall spent three years developing advancement examinations for Navy musicians. He arrived at the United States Navy Band in Washington, D.C., as Director of the Ceremonial Band and Leader of the Navy's jazz ensemble, The Commodores, after a tour of duty as Director of the NATO Band in Naples, Italy.

During this time, pianos were sort of a hobby, but experience continued to mount and an association with the Washington, D.C. Chapter of Piano Technicians Guild turned the tables completely. In the late 60's, he decided to turn the baton in totally and function as a fulltime piano tuner- technician.

Since becoming a member of Piano Technicians Guild, his service to the organization in a leadership capacity was recognized as an area of Piano Technicians Guild that left much to be desired. Work within the Chapter started with the Advertising and Promotions Committee. Early on, the Chapter recognized Marshall's quiet leadership ability and in a short time he was President of the Washington, D.C. Chapter.

After serving successive terms, he was tapped for national committee work. He has served as a member and chairman of the Ethics Committee and when data gathering began for the Piano Technicians Guild Standardized Tuning Test, he was on the Examination & Test Standards Committee.

The Chapter Achievements Committee became the apple of his eye, and as a member, he developed the present Chapter Report Form. While chairman, he

Continued on page 27

Richard A. Flegle, Sr. Central West Regional Vice President

Like many tuners, Dick Flegle started tuning pianos as a sideline. His schooling was almost exlusively music education but after many years of teaching, Dick found he yearned for the independence of being self-employed. Thus becoming a full-time tuner was a natural step.

Dick was born in Toledo, Ohio in 1925 and enjoyed a normal healthy childhood which, as he put it, "came to end after high school with a little help from Uncle Sam." Dick was drafted and soon after became a member of the Admiral's Band at the Pearl Harbor Navy Yard on Oahu, Hawaii.

After serving two years, Dick was honorably discharged as a 2nd class petty officer in music.

In the fall of 1946, he began studies for ministry of music at St. Paul Bible College in St. Paul Minn. Four years later, he had earned his bachelor's degree with a major in trumpet and was given an instructor's position at the school.

For the next 11 years Dick taught sight singing, ear training, orchestration and instrumental ensemble. He conducted the school orchestra, gave private brass instrument lessons, and was conducting various church choirs in the Twin Cities area.

It was during this time that Dick began to tune pianos."The St. Paul Bible College had 20 pianos," Dick reminisced. "They had an old blind tuner who had been with them for years. When he died, the director wanted to get someone on staff to do the tuning, and I had six months left for education on my G.I. Bill. So I became the logical candidate."

Dick learned tuning at the McPhail School of Music in Minneapolis and began tuning the school's pianos. During the next 10 years, tuning gradually took priority over teaching due to Dick's yearning to work for himself and an increasing disillusionment with teaching. "I realized that I was sitting in class thinking mostly about the piano I had to tune that evening," Dick said. "I was self-motivated and independent but just couldn't be that way in teaching."

In the early 60s, Dick began tuning for the Minneapolis Baldwin dealer and three years later struck out on his own. He became a charter member of the Twin Cities Chapter of the Piano Technicians and eventually held offices of secretary, vice president and president of that chapter which has grown to be one of the five largest chapters in the U.S. He has been an instructor at the Guild's National Conventions and is currently Central West Regional Vice President.

Dick feels the Twin Cities Chapter is a virtual utopia for tuners since people there are so aware the arts.

He has no regrets about leaving teaching. "My goals were more easily reached in tuning," he said.

THE TECHNICAL FORUM

Jack Krefting,
Technical Editor

Q: *"I wonder if you could spend a few moments telling me how to choose the proper tuning hammer. I have been using my original student quality hammer for about seven years and wonder if it might not be time to upgrade. I'm into this business full-time, tuning about twenty pianos a week.*

1) What will an extension hammer do for me?
2) What length(s) and angle of head is most useful?
3) Is wood superior to nylon as handle material?
4) Are any of the slender or extra long tips necessary?

Any help you can give me will be greatly appreciated."
Donn Young
Belle Mead, New Jersey

A: I would say that it is time to upgrade, and would suggest the best hammer available, regardless of price. It isn't terribly expensive anyway, especially when one considers that it will deliver a lifetime of service. I haven't kept up with the prices, but historically the price of the best hammer has been about the same as the average fee for one tuning,or just a bit more.

Deciding on the right combination of hammer, head and tip can be difficult, though. One might assume that the best way would be to ask all chapter members to bring their hammers to a meeting, and experiment with what others are using. The problem with that is that it takes time to adjust to any change in the way the hammer feels. Before one can really feel the pin in the block, one must anticipate and disregard the feel of the hammer so that it becomes an extension of the hand rather than an unfamiliar, awkward tool.

When I first tried to use my professional hammer I had a difficult time with it because it was so stiff and heavy in contrast to my old student hammer, which was a gooseneck. But when I became accustomed to the new hammer's lack of spring or flex, I could feel the springing and flexing of the pin much better. For this reason, I recommend the stiffest hammer available.

I use a nylon-handled extension hammer for stiffness, but always use it fully retracted. Extending it, even an inch or two, gives it an entirely different, springy feel. Leading tuner-technicians have stated, time and again, that the reason for the extension feature is stiffness, not the ability to extend the handle.

For a few dollars less, it is possible to purchase a non-extension hammer which is otherwise equivalent in quality to the top-line extension model. The non-extendable type seems to be slightly more flexible because of the length of shaft which is unsupported by the handle; this flexibility is its nemesis, in the eyes of those who prefer maximum stiffness.

The difference between wood and nylon for the handle material is probably negligible from a performance standpoint, if everything else is equal. This may or may not be the case in a particular application. If the sole criterion were looks,most technicians would probably prefer the wood to the nylon because of the relatively characterless, if precise, look of the nylon. The feel of the two materials is somewhat different, too. The feel of wood is somehow more friendly, but the quality of the tuning is unlikely to be affected one way or the other, at least if the construction of the hammer is the same. Technicians have expressed a preference for genuine wood in the handle, so some suppliers have responded with wooden handles which are simply bored to receive a hammer shaft. This is not a particularly stiff form of construction, but will suffice if the only requirements are that the tip be a star rather than a square and that the handle be made of wood. Rosewood is fine, but I wouldn't make a fetish of it.

Let's look at some of the conformations available in modern tuning hammers. The biggest controversy involves the angle of the head, and that is one which will not be resolved here. There are three commonly used head boring angles, each of which has its particular advantages and disadvantages. Theoretically, the best tuning hammer would have a zero degree boring angle and would fit as close to the coil as possible, something like the imaginary hammer drawn in **Figure 1.** With this design, the pin would not spring appreciably, as the force would be almost totally one of twisting rather than of partial bending. The plane of the centerline of the hammer handle would be about parallel with the plane of the string, and the force would be exerted as close as possible to the pinblock.

That would be great if it would work, but of course it won't because of the obstruction of other tuning pins, the capo bar, and other things. So designers of tuning hammers have concentrated their efforts on designs that are practical and will still do the job.

Since the design in Figure 1 will not work, we must compromise with the socket arrangement and try to get the hammer handle as close as possible to the plane of the string, while still clearing the obstructions. For a long time the ideal compromise was the 5 degree angle head with a medium length on the head and tip. In the past few years, other ideas have been added to the evolutionary melting pot with

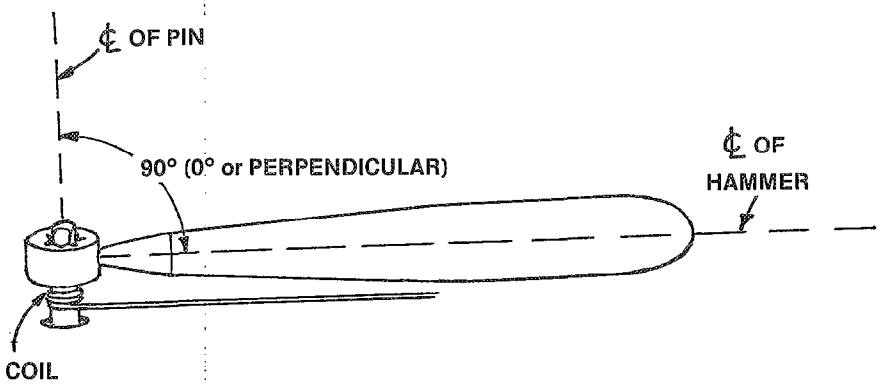
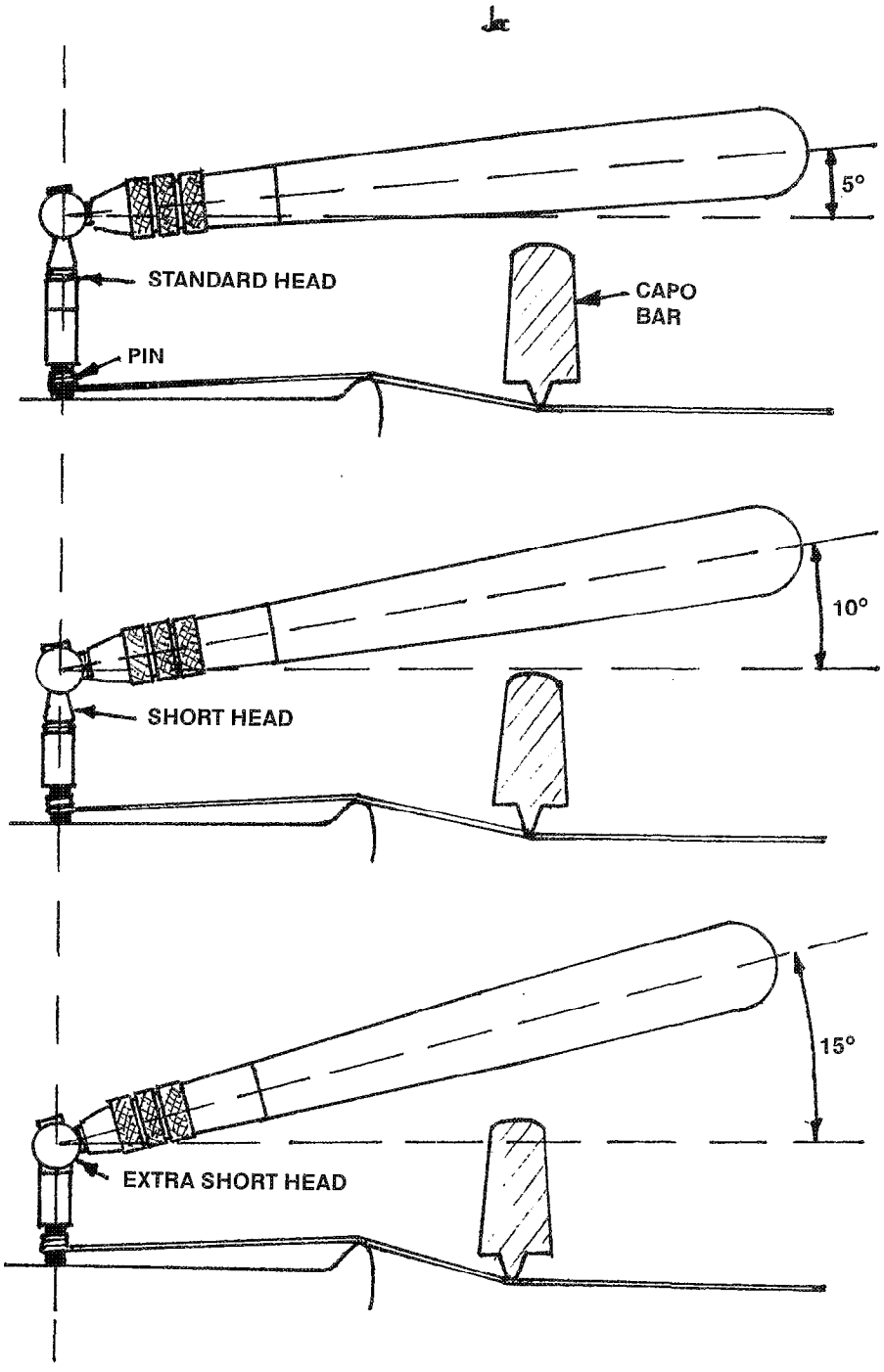


Figure 1

Figure 2



the result that there is no longer one simple answer that is correct for everyone.

Theoretically, no angle would be preferable because less pin bending would occur; so the 5 degree head would be best from that standpoint. But in some situations tuners have found that a higher angle would be advantageous for one reason or another, so some heads have been made with a 10 degree boring angle. There is more bending of the pin, especially if the angle of the handle is not parallel to the string, but the advantage is that the higher angle allows the use of a shorter head. This means that the point of application of force is closer to the pinblock, and many tuners feel that this advantage overcomes, or at least offsets, the disadvantage of the pin bending.

In recent years some hammers have been made with a 15 degree angle at the head,a seemingly intolerable angle from the standpoint of pin bending; yet, although many tuners will condemn these heads; others will swear by them, saying that they get a better feel of the pin in the block this way than with any other head. **Figure 2** illustrates that the higher the angle (numerically) the lower or shorter the head can be,and still clear the capo bar.

Although my own preference is a 5 degree head, 1 3/4 inches long, there are times when a more radical angle might be preferable, I suppose; in any event, if a 10 or 15 degree head is used, the shortest possible head and tip combination will produce the best results. A long tip or a long head, in conjunction with a 15 degree bore, will just bend tuning pins.

Since Francis Mehaffey invented the impact hammer a number of years ago, much attention has focused on that technique. Some technicians say they have been impacting for years by just using an oversize tip with a lot of lost motion at the pin. Others use impact hammers whenever the pin torque will permit, and still others use a number two tip and impact with a regular hammer by bumping the end of the handle. The advantages claimed for impact tuning are twisting and springing of the pin with resultant superior equalization and setting, and the string renders more readily with less likelihood of breakage since the pin is suddenly jarred around rather than being twisted. It is difficult to say with any real certainty that a given string would or would not have broken had a certain technique been used to raise its pitch, but in general I would agree with the claims made by impact advocates. Impacting is a valuable

skill, not necessarily to be used exclusively, but vital in some situations.

Slender tips are not ordinarily necessary, but there are occasions when a standard 9/16 inch diameter tip will touch a plate bar or a neighboring tuning pin, thus preventing the accurate tuning of that note. I have found that by grinding a standard number two tip so the lower half tapers down to 1/2 inch, as shown in **Figure 3**, there is no need to go to a special slender tip. This tip still has enough steel in it to resist the rigors of daily work, so frequent tip-changing is unnecessary. I use it for everything.

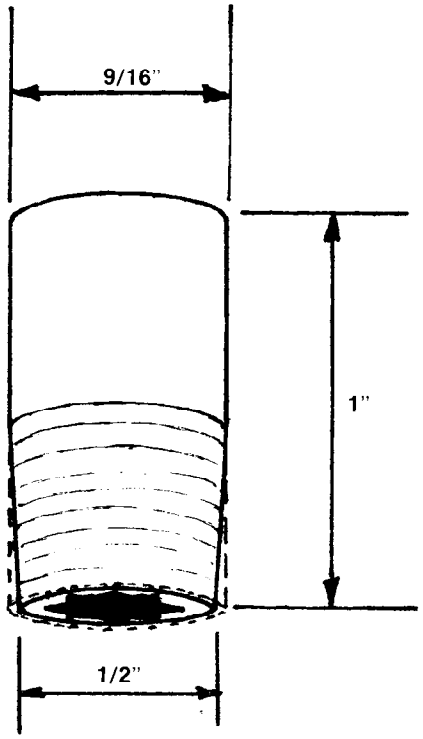


Figure 3

Some prefer a number three tip on 00 pins, partly because it's oversized enough to impact-tune and partly because even on a smooth turn the point of contact (or torque) is closer to the coil, possibly giving a better feel and less springing. For those who like to experiment, this is worth a try.

This whole area is so subjective that it is probably best if I drop it right here, except to say that we welcome comments from our readers on this topic.

Haines Brothers Action

Q: *"I am regulating a Haines Bros. baby grand, serial number 78484. I am trying to get it to let off, drop and backcheck properly. Can you help with specifications? It looks something like this* **(see Fig. 4)**. *Any help you can give will be greatly appreciated. Can I buy springs at all?"*

Kent Galloway
Ripon, Wisconsin

A: I do not have regulating specs for this action, but it should be possible to determine what is correct by empirically determining what will work. First, let's look at the parts to see how it was designed. The letter "A" is on what appears to be an English-type hammer butt, padded where the jack touches it and equipped with a groove for what must be the repetition spring, indicated by the letter F. The drop screw, called out as the letter "E", is in a "normal" position but acts directly on the spring, a most unusual arrangement. The spring tension is regulated by the adjustment on the back of the jack, labeled "B".

"H" is the key, "G" is the capstan, and "C" is the whippen. Letoff is adjusted by turning the screw and button "D", and "J" seems to be an auxiliary return spring, which is presumably necessary to get the jack back under the butt when the repetition spring is trying to force it out. Except for that, the action train appears to be straighforward. The power goes straight up from the capstan through the whippen and jack to the butt efficiently with no lost motion except for the usual whipping of the hammershank. I see no screw adjustment for the auxiliary spring "J," which is probably a fairly tricky adjustment anyway. This may be the weakness of the design.

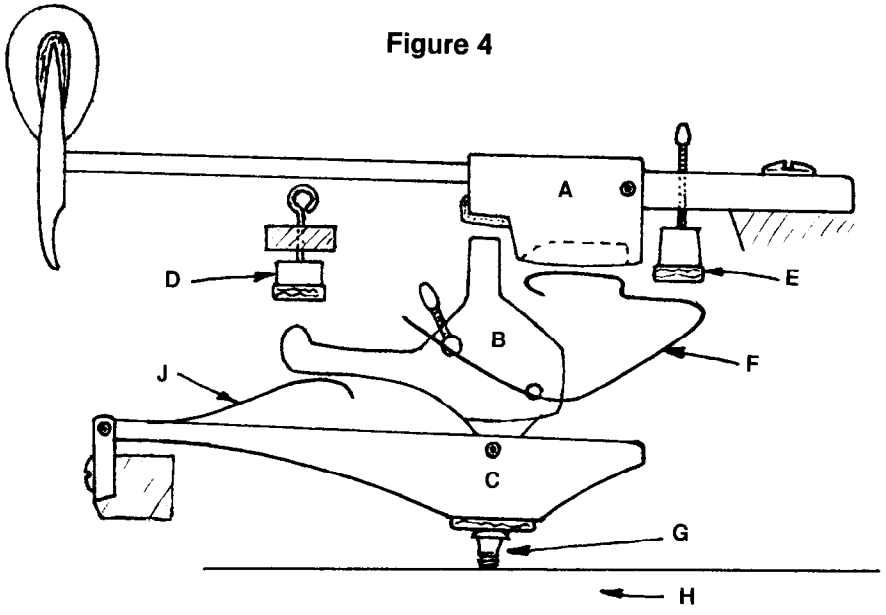
Try setting the dip at 3/8 inch, letoff and 1/8 inch (wide for insurance) and drop at 1/16 inch below letoff. The drop could be set lower if necessary for reliable checking, but be sure it is not so low that the jack cannot reset under the butt.

Now play with the hammerline until there is aftertouch, and adjust backcheck bevel so the hammer tail passes closest to the fat portion at about the lower third of the backcheck when the key and hammer are slowly cycled. If one key and action assembly can be made to work, continue experimenting until maximum efficiency and power are attained. If the rails are stiff enough, for example, it may be possible to set the letoff closer and thereby increase power and control.

If the hammer rises quickly but the jack is sluggish in returning even though the jack center is free, then "F" will have to be slightly weakened while strengthening "J" if "J" alone is strengthened in this instance, the touch will become heavier at the end of the cycle where it can be felt but would never be measured as touch weight because that is after escapement begins.

To my knowledge, these springs are not available. However, spring steel is readily available and once a fixture is made for making a particular shape of spring, an entire set of springs can be made quickly and accurately.

Figure 4



The December 1981 issue of Cleveland's newsletter, Butts & Flanges, *was full of goodies worth passing along. Our Immediate Past President has written an article on glassing which I think is interesting; he has kindly given us permission to reprint it here — Tech. Ed.*

Some years ago I thought that the process of glassing pin blocks was invented on the west coast. But since then I have found that piano craftsmen of yesteryears were using this idea in the "golden days" of piano manufacturing. I have discovered, through rebuilding, positive evidence to support this statement. It seems that in the factory the worker would simply flow hot animal glue into the plate flange-pin-block crack to fill and or achieve a fit. I have seen this technique on many different pianos. Also, as shown in **photos 1 and 2,** at least one manufacturer put something (not epoxy) in the crack. When this substance hardened, it was supposed to fill the crack . . . well, it almost did. Based on this, and new epoxies, plus the total conviction that the pin block *must* be fitted perfectly to the plate flange, I will try to explain my method of glassing the pin block.

Photo 1.

Let us assume that the block is located correctly side to side. Now we will fit the pin block to the flange using a hand rasp, a round rasp that fits into your drill, or a hand electric sander with a coarse grit. Then paint the plate flange with a water and chalk combination the consistency of heavy syrup.

Locate the pin block on the plate and give a single blow with a rubber mallet to the middle of the block toward the flange.

This will show you all the high points to be filed down. The high points will be the blue chalk marks on the wood. Continue this process until the entire block is blue, or at least every two inches. I believe the fitting of this block would then be accepted by most technicians as being done. But I go one step further.

Photo 2.

Mix a portion of epoxy filler. Place a long sheet of wax paper on the plate, covering the flange and all parts where there is the slightest chance of epoxy flowing. Apply a thin coat of epoxy filler to the flange side of the block and then press the pin block into position with the wax paper between the metal plate and the pin block. Put about 10 plate screws into the block (the plate screws were prefitted before we began this operation) to be sure the block is perfectly married to the flange and plate. You might want to use a few clamps also. The epoxy will flow into any and all crevices. The following day when you remove the screws and remove the wax paper, you will find the ultimate in pin block-flange fit.

You can proceed with your normal pin block work knowing that you will never have a problem related to a poor block-flange fit.

By the way, if you are still not convinced that a block and flange must be perfectly fitted for tuning stability and pin block longevity, look at **Photo #3** and you will see what happens to a badly fitted pin block.

I have deliberately avoided discussing the problems one gets into with odd-shaped blocks, warped plates, etc. due to the fact that these are special problems that require individual techniques to achieve the ultimate in pin block fit. The preceding represents a process for basic standard blocks.

Photo 1

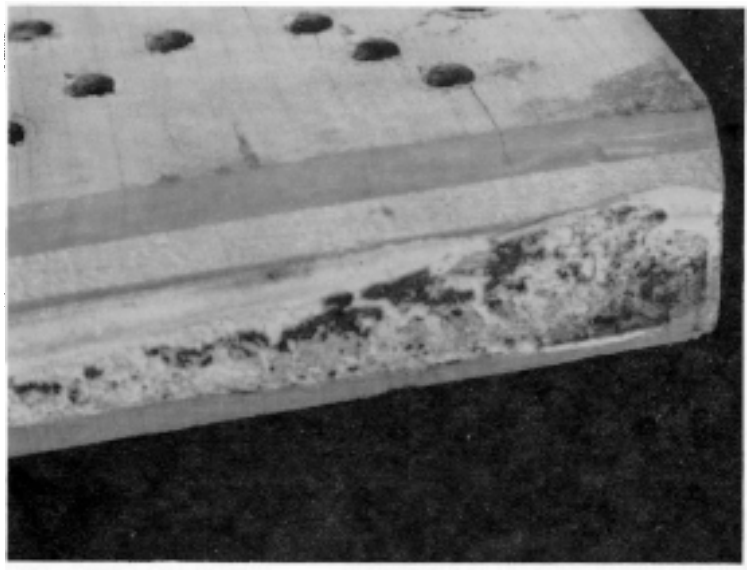


Photo 2

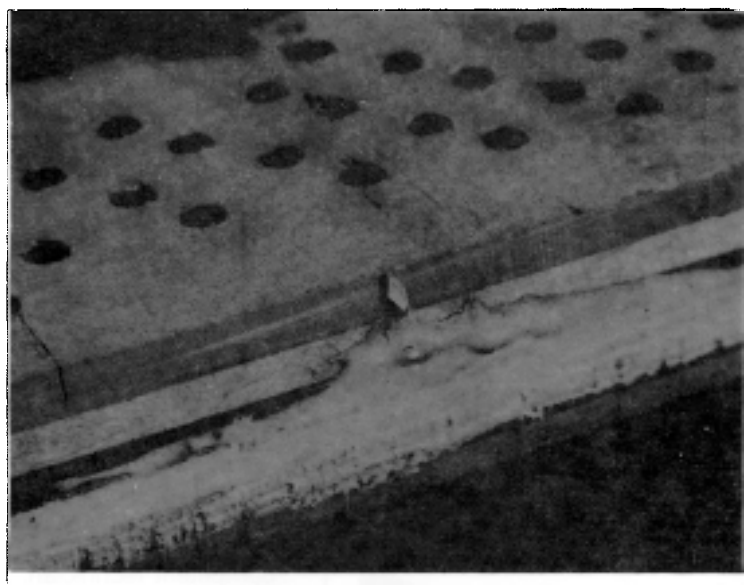
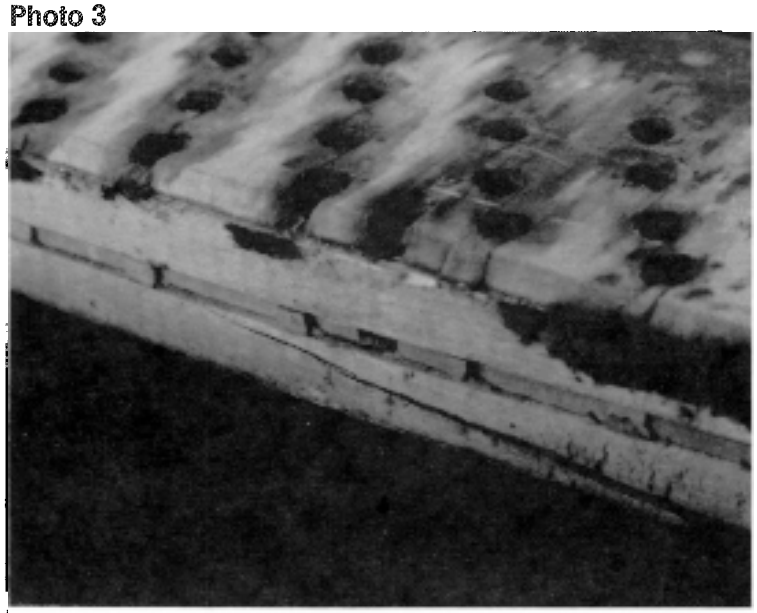


Photo 3



Reader Comments

. . . I'm . . . writing with a request for a series of articles containing the information presented by Phil Bashaw on "Business Practices" at the 1981 Institute. His class was superb and I believe very helpful to all technicians . . .

Gay Ornellas
Redwood Chapter, California

Dear Jack:

In your column of the July issue you have a Michael Shapiro who wants to know about a metal lining for a cracked pin block. I would like you to call his attention to the fact that there is just such a solution sold by *Schaff Piano Supply* on page 71 of their catalog number 71-72 with full instructions on its installation.

This is a great method as I have used it on several occasions and find it works *very* well. It is the old principle used by the *Wegman Piano Company* and in the catalog is called *FEASTER TUNING PIN LOCK*. It was probably thought up by the late Raymond Feaster, a past member of the old ASPT.

Bob Nicholas
L.A. Chapter, California

I have made some observations concerning the tuning of unisons. Even if you try your hardest for a perfect three string unison, it is very rare that you will ever get one on the average piano or some of the better ones for that matter. I have tuned aurally for a number of years but now use a Sight-O-Tuner. The SOT has taught me some things about pianos that I didn't know before. First of all, even users of electronic tuners know that unisons are much better when tuned aurally. That's because you are unconsciously making compromises to make them sound better. For example, tune each unison the best you can and then check each string separately with the SOT. I have found it to be very seldom that you can get *exactly* the same reading on each string. On inferior pianos you will note considerable difference. Where there is a change in wire size it would be impossible to get a really perfect unison. Many bass unisons can be even more unreliable.

I have noticed another thing well worth mentioning. The more you jockey a pin around in the attempt to achieve a perfect unison (so called "perfect unison") the more the risk of causing the center string to creep out.

To sum it up, I believe that, at best, unisons are out far enough without trying for more. Then too, we shouldn't forget that a *really fine edge* in unison tuning doesn't usually stay that way too awfully long.

Marvin Snell
Scottsbluff, Nebraska

And finally, a now-familiar voice from South America, referring to our opening remarks in the November, 1981 Forum:

Dear Mr. Krefting,

This is to thank you for the publication in the PTG Journal of my needs for a competent technician. Actually I've not yet seen the publication since it takes between two and four months for the Journal to reach me.

About eight letters have already been received, one of them from an American technician now in Austria, a fact that attests the penetration of the Journal. I'm sure one of the applicants will be interested in the position . . .

C. E. Borges Cortes
Rio de Janeiro, Brazil

In Conclusion

Please send all technical articles, tips, comments and questions for possible publication to me at this address:

Jack Krefting
Technical Editor, PTJ
3802 Narrows Road
Erlanger, KY 41018

A Report From
THE TRADE RELATIONS COMMITTEE
January, 1982
Seattle, Washington

Submitted by
Bob Russell, Chairman

GOALS:

To promote mutual good will and welfare between the Guild, its members, piano manufacturers, piano dealers, piano teachers, and all piano technicians.

PROGRESS:

1. We have arranged to have Sid Stone, President; Dan Evans, RVP; and local chapter members to represent the Piano Technicians Guild at the NAMM Winter trade show in California. Many ideas and suggestions were presented on the best manner to represent the Guild and its image at this trade show.
2. The second week of Jan. 1982 I will be attending my first board meeting of the Piano Manufacturers Association's NATIONAL PIANO FOUNDATION, education advisory board. I am looking forward to this meeting of teachers, suppliers and manufacturers with great anticiption. I will do my best to represent our Guild in the highest standard.
3. We will be setting up the logistics for the summer NAMM Trade show. The Guild will be represented at this show of about 13,000 visitors.
4. We will again, if money allows, attend the summer board meeting of the Piano Foundation.

CONCLUSION:

This committee would like to thank the board for their understanding and support of this very important committee, now and in the future.

VON DER WERKSTATT

Priscilla and Joel Rappaport, RTTs
Austin Chapter

Basic Grand Damper Guide Rail Construction

The principles of guide rail construction for rebuilding pianos is identical to the procedures used in new piano construction. The purpose of any damper guide rail is to support and guide the movement of a damper wire in its up and down movement as it is activated by the damper underlevers, the end of the key or the damper lift rail. The guide rail plays an important role in whether the wire moves freely or "hangs up" and is sluggish and in the clearance of the damper wire with its neighboring bass string.

The question then comes up: Why in the world would one *need* to construct a new guide rail? Although we do try to use the original guide rail in rebuilding jobs, we have has to make new guide rails for instruments for the following reasons:

1. *The old one was damaged, warped or badly repaired.*
2. *The holes are too big for the wires. Some original guide rails are double bushed. They can be reused if you double bush them. However, if you want to single bush them, the original holes would be unsuitable. Some older guide rails have been bushed with a super thick bushing cloth and the holes are too big for the standard cloth used in our shop.*
3. *A new plate has been installed resulting in different spacing of the strings.*
4. *Bad spacing from the manufacturer. Some holes are almost under the unison strings and allow little room for damper wire clearance.*

A well-constructed damper guide rail must meet all of the following requirements:

1. *fit curve of the sound board*
2. *holes in the guide rail must be exactly between the unisons in bass and treble; in the bass, the spacing often will be quite narrow*
3. *have about 8-10mm clearance under the string - bass and treble each with reference to their own string levels*
4. *stable wood; red beech or maple for the top; beech, maple or pine for the body*
5. *positioned on soundboard toward away from player so as to correctly align with the damper underlevers and clear the edge of the soundboard*
6. *correct diameter of holes with bushing for damper wire size*
7. *holes should be countersunk slightly*
8. *correctly bushed with good bushing cloth*

Construction of a damper guide rail is quite simple. It consists of two parts: a base and a top or ledge. The base is the part that contacts the sound board. The ledge is the top portion into which the damper guide rail holes are drilled. The top or ledge should be a hardwood (maple or beech) that allows accurate drilling of holes.Oak is porous and therefore the drill bit will tend to wander, producing holes which will not be in a straight line. The base or body of a guide rail can be pine,maple or beech. In any case, the wood for both portions should be well dried and stable.

In both the bass and treble guide rails the clearance between the undersides of the strings and the guide rail should be about 8-10mm. Since the bass strings in a grand are higher, the base of that guide rail will be slightly higher than that of the treble. In constructing the guide rail as shown in **Photo 3,** allow the base to be slightly taller than needed. The ledge should also be a bit wider than the original. Both parts can be custom planed after gluing later.

The position of the guide rail (forward and back) should be such that the wires clear the sound board edge. Clearance between the damper block (where the wire enters the damper underlever assembly) and the stop rail should also be accounted for. If the damper guide rail is positioned too far back toward the rear of the piano, clearance between the damper block and the stop rail may be non-existent or very minimal, causing possible friction of parts in the future. Such a close tolerance as this, or taking unnecessary chances should be avoided.

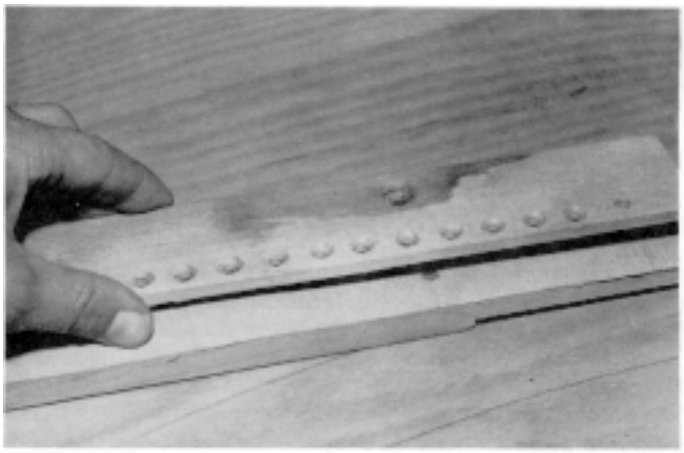
The holes drilled in the sound board for the screws holding the rails in place should be the proper size so as not to put unnecessary stress on the sound board around the screw hole area. Splits or cracks in the sound board that may develop are highly undesirable.

The base of the guide rail should be planed to fit the curve of the sound board. Nameboard felt or thin flannel-like felt is glued along the bottom of the guide rail to prevent any vibration between the board and rail when the guide rail is installed in place. One can also use strips of leather on both sides of the screw holes drilled in the base of the guide rail. This elevates the guide rail from the surface of the sound board. Both methods are good and currently used in modern production.

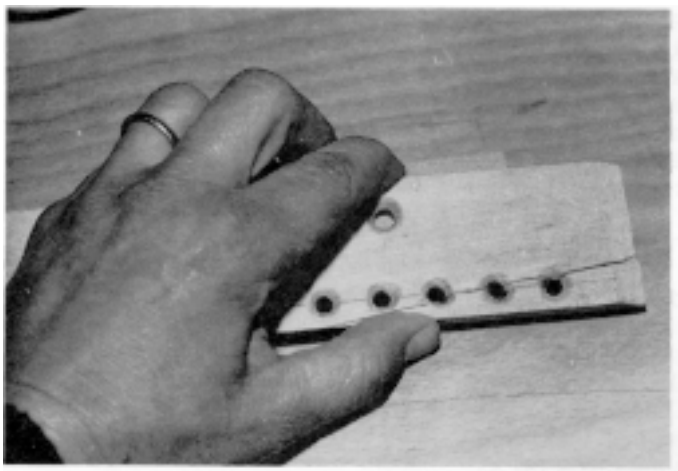
There is usually a separate guide rail for the bass and another for the treble. This is due to differences in height of the strings. However, some manufacturers use a two-piece guide rail for the treble. This is common in Europe and is valid for any grand as long as the alignment of the holes for the damper wires are placed *exactly* between the unisons. We use both methods in our shop:the one-piece treble guide rail and the two-piece treble guide rail.

Making new damper guide rails is not difficult. However, good common sense and a view of the whole job is a prerequisite before one begins. Our presentation here is an overview of the mere basics and we hope that this may serve as a guide to those who may need this information.

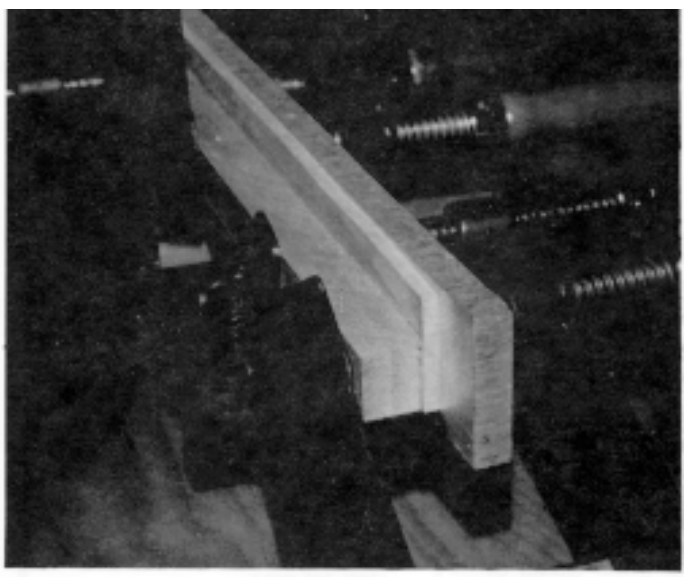
The illustrations show clearly some of the procedures used in guide rail making.



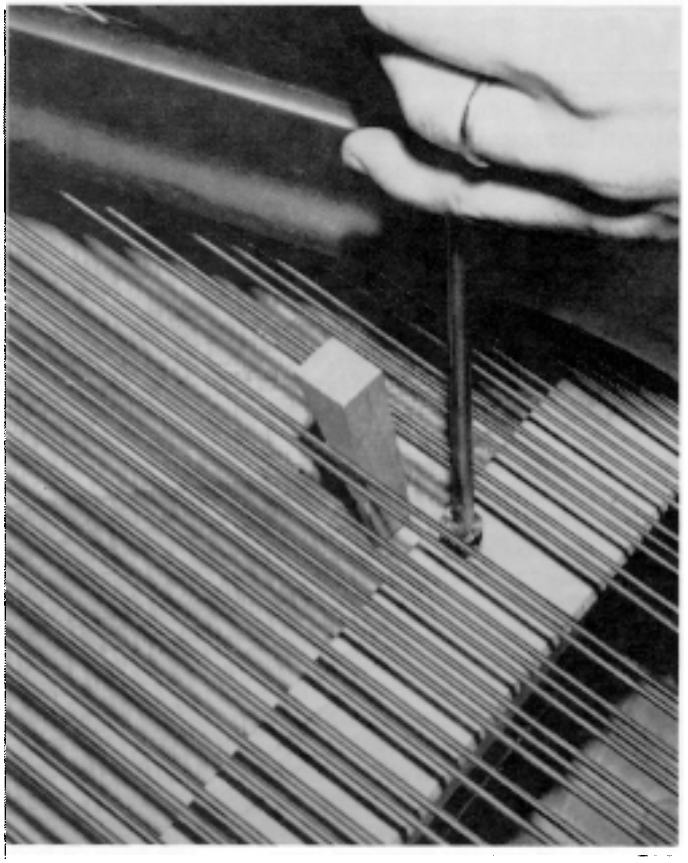
1. Guide rail water damaged, warped. Notice also that the manufacturer forgot to countersink the last hole on the right. Most guide rails have holes that are countersunk - some do not. Whether a hole is countersunk or not depends on the amount of contact between felt and damper wire that the piano maker wishes to have. A mixture of holes that are countersunk and some that are not is not good practice.



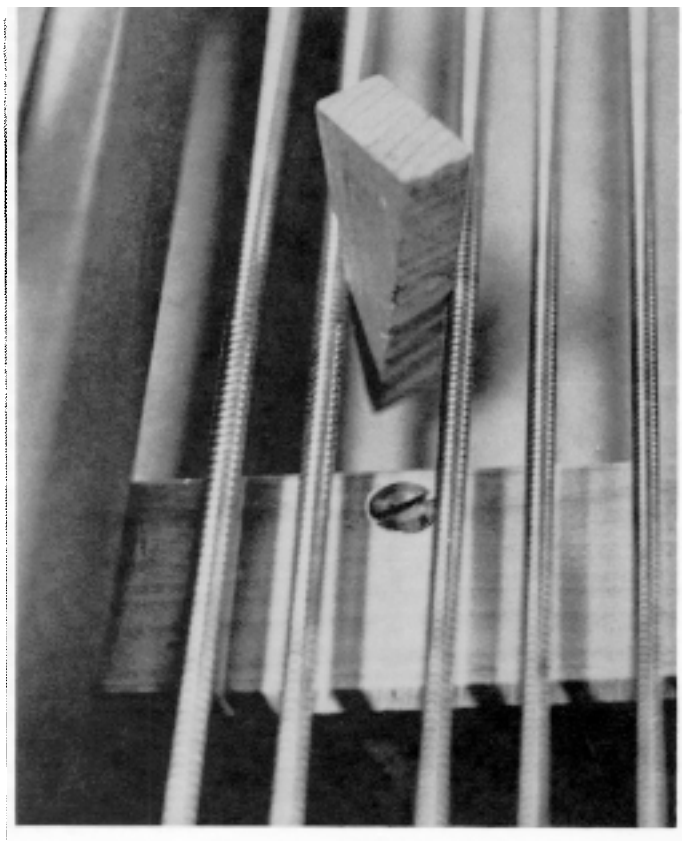
2. Bad repair. Guide rail was broken and poorly glued. The holes were oval, not round.



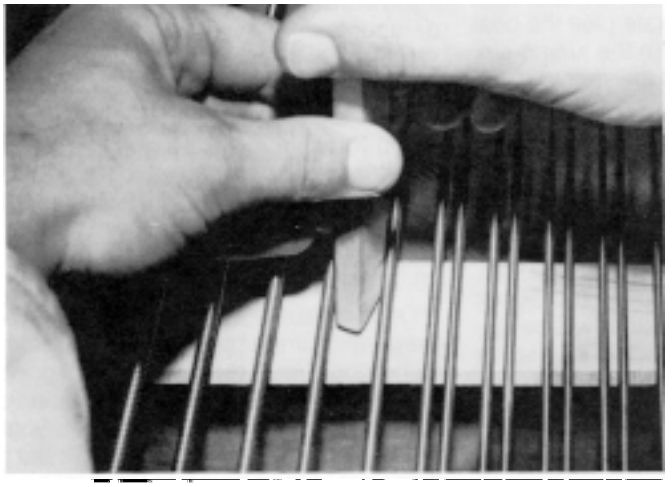
3. Base (pine in this photo) and top (maple) are glued overnight with a metal plate and strong clamps.



4.-5. Wood wedges separate strings so that the screw can be tightened between unisons. Be careful of bass strings so as not to damage copper windings.



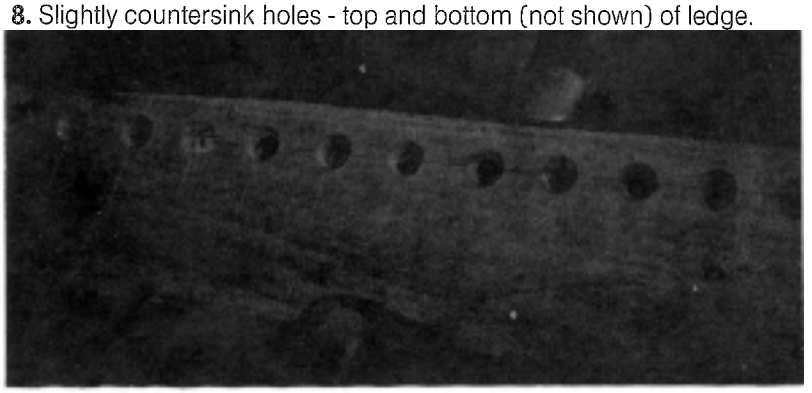
6.-7. Tool used to score top of guide rail fits nicely between unisons. When twisted slightly in large gaps between bass strings, the tool scores in the center of these, also.



12. Cut bushing cloth flush with the top of the guide rail. A sharp knife is a *must!* If you must "saw" the cloth off with knife, the knife is dull. One cutting motion all the way through is correct.

11. Bush guide rails with good bushing cloth that is torn to size. This way the torn edges "mesh" together. The seam or edges of the bushing cloth shown in the photo are at the 12 o'clock position. This is correct since the stresses are either at the 9 o'clock or 3 o'clock positions. Avoid placing the seam of a bushing where the stress is exerted.

8. Slightly countersink holes - top and bottom (not shown) of ledge.



9.-10. Attention is given to final distance from the edge of the countersink to the edge of the damper guide rail is sufficient. If too much wood is left as shown in Photo 9, plane the edge down so that the desired distance is attained.

THE TUNER

Paul Monroe RTT
Orange County Chapter

Unison Tuning Cannot Vary

For the beginner, you can vary the temperament, you can vary the octave but you *can not* vary the unison tuning. You can be the greatest at setting a temperament and stretching the octaves, but if you can't master the unison then all is for naught. Accuracy and stability is a must.

With this in mind you should practice the most on unison tuning until you have it mastered. With this,of course, you will need a good tuning hammer technique. You can tune a good unison but if it doesn't stay where you put it when you give it a hard test blow, then you must tune it again and again until it will stay tuned.

Before getting into details on this however, let's talk a little about unisons. I believe the beginner should visualize that each string has many different frequencies or partials and you are trying to match the partials of one string to another perfectly so as not to create any beats or slow rolling effect.

There will be times on the lesser quality pianos when you will be confused with what you hear. It will seem next to impossible to get a pure unison. If this happens to you, check each string of the unison by playing an interval. ie: Tricord A3. Play each string separately with one string of the F3 tricord and compare beat rates. If they are the same — you're in.

Some of the experts have said they like to tune unisons just a little out of sync to give it more color. When you become a craftsman tuner, try it, but for now I suggest you try for purity.

Unison tuning in the top treble section can be the most difficult due to false beats (A false beat is when an individual string has a beat rate all its own). To help you with this problem, play the note before you remove the muting strip and listen for the false beat rate. As you tune the unison you will hear that beat rate plus the beat rate you hear as you turn the tuning pin. The beat rate you want to listen to is the one that changes.

One of the questions frequently asked is where do I start tuning unisons, the bass or the treble. I start with note C8 in the treble using the following procedure to obtain stability.

I learned the basic principle of this method from George Defebaugh. The details about why I use this system will be discussed in the next issue of the *Journal*. "A procedure for Raising Pitch." It will be for the Craftsman member as well as the student or apprentice.

As you start tuning unisons down the keyboard from C8 to the tenor-bass break, tune the bottom pin only on a vertical and the tuning pin closest to you on a grand. Remove the muting strip one unison at a time to open the string you want hear. When you arrive at the treble damper section on a vertical, depress the sustain pedal and remove the muting strip from the treble section only. For the balance of these unisons to the treble-tenor break use the rubber wedge with a handle that has the temperament strip attached. See the October issue of the *Journal*, Fig. #1, page 28.

When you have tuned all of the bottom pins on a vertical or the pins closest to you on a grand, you now have all muting strips removed. Proceed from the tenor section back up the keyboard to C8, tuning the top pin on a vertical or the pin farthest from you on a grand.

One of the minor advantages in using this method is that you will discover which unisons previously tuned have gone astray. However, the major advantage I believe is that you have evenly stressed the bridge and the soundboard and they will give you much less of a problem than if you had tuned all the tuning pins starting at the top and working down to the tenor-bass break. If a soundboard or bridge moves, so does your tuning. This is especially noticeable in raising pitch. In my next article, I will give you detailed sketches of what I think happens when you put stress on a bridge during the tuning process.

There is another very important thing you must remember and that is to be careful how you remove the muting strip. If you are not careful you may damage the damper felt.

When you remove the muting strip, depress the key or keys that are related so as to release the dampers from the strings. When you do remove the strip,it will force the string to move parallel to the soundboard, crushing the felt if it is still on the string. this is especially true with trichord and bichord damper felt.See Fig. #3, page 28, in the October issue of the *Journal*.

On to the subject most intangible but of the greatest importance, tuning hammer technique. Your reputation as a good tuner is hinged on your ability to handle the "hammer." You don't want your clients to say "his tuning is all right but it didn't last." Good hammer technique will enhance your ability to have your tuning "last." This of course means that you have a good instrument on which to demonstrate your ability.

Each tuner has his own technique. Therefore, to be able to set down a specific procedure is next to impossible. Here are some of the reasons why.

The sensitivity in your hand and fingers is different in each individual as is your hearing. No two of us hear or feel the same.You will have to develop your own technique. However, I will not leave you at this point without at least giving you some basic suggestions.

I believe a good method to achieve stability is the impact method. This manner of handling the tuning hammer gives you better assurance that the tuning pin did indeed turn when you thought it did. The pinblock hangs on for dear life to that tuning pin. It will hold on so tight that if you give a steady pull, the pin will twist and when it twists it will eventually return to its original position. Try to develop a snapping action in your wrist. I use a number 3 tip

Continued on page 22

AFTER TOUCH

David W. Pitsch, RTT
Utah Valley Chapter

50 Point Guide To Grand Regulation Part XIX

Step #35
The Aftertouch continued

The aftertouch is purposely regulated late in section IV, "The Touch," because so many other steps affect it. In fact, I often do the backchecks and repetition springs before regulating the aftertouch (sometimes this is a must if the springs were weak),making the dip the last of the nine essential steps in grand regulation. Regulating the dip after the backchecks may throw the backchecking distance off, so some minor touch-up may be necessary here. The amount that the key goes down in the front directly affects the amount that the key goes up at the back, thereby changing the height at which the backchecks catch the hammer tails.

Make sure that the key height and blow distances are *very* even, as just a little mistake in either will show up in too much or not enough aftertouch. The action should have been played upon and "settled in." This is especially true if the keyframe has been refelted. If nothing else, give the piano a good tuning, making sure to "pound the notes in." After playing, recheck the key height, using both a straight-edge as well as eyesight, even looking at the keys from different angles. Likewise for the hammer line. All corrections should be made *before* starting to regulate the aftertouch.

The action *must* be in the piano, as it is impossible to work with such close tolerances with the keyframe away from the keybed. The keyframe should have been bedded to the keybed. Double check this. Install action hold-down springs at both ends of the keyframe or else screw down the keyblocks. Be careful that there is not too much pressure being exerted by the keyblocks upon the keyframe. Too much pressure causes the middle of the keyframe to bow up, giving a false reading of not enough aftertouch. Too little pressure can cause a similar false reading on keyframes like Steinway, which have a slight upwards bow at the ends. Both would cause noise when the action is played.

Getting the feeling that a lot of checking and double checking is taking place? Failure to double check the work previously done can often lead to a lot of lost time, having to redo work which was not properly completed. Regulating the aftertouch is one of many places I use to recheck the work already performed. The method I use is to set the dip on the naturals (white keys) first, then I regulate the sharps (black keys) to match the naturals. With my thumb under the front of the keys to keep them from going down too fast, I depress one key at a time with my finder and watch the hammer as it approaches the strings. As the key is depressed,I watch for six different things:

1. *Feel the weight resistance of the key. Is this key's resistance more or less than the neighboring keys?*
2. *At 1/2 the key dip, is the damper starting to lift from the back of the key? This can be felt at the key as well as seen from above.*
3. *Near the let-off point, is the hammer to string alignment correct?*
4. *At the point of let-off, is the let-off distance correct?*
5. *Watching the hammer fall from the point of let-off, is the drop distance correct?*
6. *And lastly, after the hammer drops, does it rise back up again towards the strings? It should rise about 1/8" as the key reaches a fully depressed condition.*

The last step, watching the hammer rise after it drops, is what I define as aftertouch. It directly shows that the key has a little safety factor in its downward movement after escapement. This safety factor is very important. Not only does it insure that the action will complete its escapement cycle, it also allows for the action to swell a little during a moist season of the year and still be playable. Over many seasons it allows for the normal wear and compaction that takes place.

Even though the term aftertouch implies something happening with the key, I prefer to regulate the aftertouch by watching the amount that the hammer rises rather than the amount that the key goes down. Why? Think about the hammer to key ratio. With the key dip at about 3/8", the hammer blow distance is about five times the key dip, or around 1 7/8". Taking a reasonable figure of .025" for aftertouch in the key, this would be compared to the hammer rising after drop about five times .025", or 1/8". I find it to be much more accurate to try to measure 1/8" compared to .025". If I do mismeasure, a small error in working with the amount that the hammer rises is negligible,whereas a small amount in the key can mean a lot.

Regulating one section of the action at a time, I depress each natural key and watch this rise of the hammer. Doing this in rapid succession increases the accuracy of trying to regulate all of the keys in a section to have a similar amount of aftertouch. I go over each section twice, once to get them close, the second time for fine regulation. The first time through, I watch only the hammer rise. If a key needs to have punchings added or subtracted, I gently lift it up at the front, being careful not to lift the key too far and elongate the hole at the center of the key. If punchings need to be taken out, lift the felt punching with a pair of tweezers and remove it. Subtract at least the amount that is needed and reinstall the felt punching. If too much was removed, it will be OK. If punchings needed to be added, or if too much was taken out when subtracting, put the proper amount of paper punchings *on top* of the felt punching. At this stage of the game, if every key has paper punchings on top of the felt punchings, that is ideal.

Continued on page 21

SOUND BACKGROUND

Jack Greenfield,RTT
Chicago Chapter

TETRACHORD AND SCALE ORIGINS

Greek music was primarily monophonic, that is, in the form of a single line of melody. Voices sang in unison or in octaves. Accompanying instruments moved in the same pattern as the melodic line but could sound notes that formed either consonant or dissonant intervals.

Although vocal music dominated performance, Greek music theory was based on the stretched string of the lyre or monochord. The scales were derived from the tuning of the lyre. During the earlier period of the four-string lyre, the range fell within the interval of the pure fourth to which the outer strings were tuned. While the pitch of these strings was fixed, the tuning of the inner strings could be varied to give a number of different four note or tetrachord patterns. As music developed further, the range was extended to an octave by combining two tetrachords, by disjunction (separated by a whole tone) or by conjunction (joined by a common note for the bottom of the upper and top of the lower tetrachord).

GENERIC CLASSIFICATION

By the fourth century century B.C. the main tetrachord patterns (in whole tone units) were classified in three genera:

diatonic, 1/2 - 1 - 1
chromatic, 1/2 - 1/2 - 1 1/2
enharmonic, 1/4 -1/4 - 2

There were also other tetrachord patterns of lesser importance.

The tetrachords had further sub-classifications by order of intervals. In the diatonic genus these were (ascending):

Dorian, 1/2 - 1 -1
Phrygian, 1 - 1/2 - 1
Lydian, 1 - 1 - 1/2

Diatonic tuning was the oldest form and it dominated music throughout Greek history.

THEORY SCIENCE ESTABLISHED

Music was a well developed performing art when Pythagoras initiated the scientific study of theory during the late sixth century B.C. Pythagoras' main interest was intervals, but the theorists that followed studied a wider range of topics including tetrachord classifications,scale species, modes, pitch, style and other elements of music. Although the ancient writings that have survived to modern times are vague and inconsistent in their use of some terms and presentation of principles, there is sufficient information to form a fairly good concept of Greek theory.

The Greek word for *harmonics* meant *tuning,* or acoustic theory. Many of the Greek theorists studied harmonics as a physical science ignoring the practical music or performance. Opposed to this was the work of Aristoxenus (late 300s B.C.) and his followers. Aristoxenus, whose father was a professional musician, had a practical music background as well as an education in philosophy., Although it is only a fraction of his complete works, his only treatise still in existence, *Harmonics,* is one the most valuable references on Greek music theory.

GREEK SCALE MODES

Aristoxenus discussed a variety of different scale patterns. In the Greater Perfect System (GPS) the theoretical complete two-octave range of Greek music was composed of four tetrachords. The white keys from A_2 to A_4 of the modern keyboard give an approximate indication of the GPS diatonic spacing.

Within the complete GPS range, the single octave scales beginning on each note had a different pattern of intervals, giving a total of seven different arrangements or species for each genera of tetrachords. In one of the simpler modern interpretations of Greek music theory, these scale patterns are considered the modes frequently mentioned in Greek literature. The names of the modes were names of districts of ancient Greece. The diatonic modal patterns correspond to octave scales beginning on each of the white keys of a modern keyboard as follows:

C *Lydian*
D *Phyrgian*
E *Dorian*
F *Hypolydian*
G *Hypophrygian Ionian*
A *Hypodorian Aeolian*
B *Mixolydian*

The names of the ecclesiastical modes of the Middle Ages were different.

There are several interpretations of Greek modes that consider them to have been different keys. One of these theorizes that a single basic pattern was transposed into seven different keys. The other interpretation holds that the different mode patterns were each transposed to fall in the range E_3 to E_4. It is not certain to what extent,if any, the modes also included some elements of style.

INTONATION OF GREEK SCALES

The tuning procedure of the ancient Greeks was not based on a cycle but on division of the octave into intervals — specifically the placement of the movable inner notes within the fixed outer notes of the tetrachord, always a pure fourth apart. Pythagoras determined ratios of vibrating string lengths corresponding to the octave (2:1), the pure fifth (3:2), and the pure fourth (4:3). He believed other interval ratios should consist of numbers that are multiples of 2 and 3. The ratios for the other intervals of the tuning that became known as the Py-

thagorean diatonic scale could be calculated arithmetically. Thus, multiplying to add an interval ratio, dividing to subtract:

Pure Fifth (3:2)	–	Pure Fourth (4:3)	=	Major Second (9:8)
Major Second (9:8)	+	Major Second (9:8)	=	Major Third (81:64)
Major Fifth (3:2)	+	Major Second (9:8)	=	Major Sixth (27:16)
Major Fifth (3:2)	+	Major Third (81:64)	=	Major Seventh (243:128)

Identical figures are obtained in calculations for a tuning cycle of pure fifths and octaves. The interval spacing between steps of this scale is 9:8 (204¢) for whole tones and 256:243 (90¢) for semitones.

The theorists after Pythagoras used his methods and the monochord for analysis of tuning but Pythagoras's ideas on intonation did not exert any major influence in the Greek music world. The best reference on ancient Greek intonation is the works of Ptolemy. He reported tunings which he observed or developed in the early 200's A.D. and tunings recorded by earlier theorists in writings no longer in existence. The variations in the diatonic tunings he showed are of special interest. The Pythagoren diatonic scale previously discussed was listed by Ptolemy as Erastosthenes diatonic (late 300s to early 200s B.C.) and again as his own "ditonic" diatonic tuning. The ditone or Pythagorean major third, 9:8x9:8=81:64 (408¢) is a harsh rapid beating interval that was changed in other tunings. Previously, Archytas (early 300s B.C.) had used an even wider major third 9:7 (435¢) said to be more pleasant in his diatonic tuning, although he used the narrower beatless major third 5:4 (386¢) in his enharmonic tuning.

Didymus (middle first century A.D.) modified the diatonic tetrachord by reducing the lower 9:8 (204¢) whole tone to 10:9 (182¢) and identified the two different sizes as major and minor whole tones. The difference between the two, 9:8x9:10 = 81:80 (22¢) is known as the syntonic comma, or comma of Didymus. The sum of the two 9:8x10:9 = 5:4 (386¢) is the beatless major third. the Pythagorean semi-tone 256:243 (90¢) was increased to 16:15 (112¢). The interval pattern of Didymus's Dorian diatonic tetrachord was: E (16:15), F (10:9), G (9:8) A, with a similar upper tetrachord separated by a 9:8 interval, completing the octave to E above.

Ptolemy reversed the positions of the 10:9 and 9:8 intervals to conform with his theories on the use of intervals with superparticular ratios, or octaves of such intervals. In a super-particular ratio, the greater figure exceeds the lesser by one. The acoustical outcome was quite satisfactory since Ptolemy's series of superparticular intervals coincided with the series of beatless intervals related to the harmonic series which became known later as the *just diatonic scale. Just intonation* is a more general term applied as well to other tunings based on beatless intervals also known as pure, just, or natural intervals.

Ptolemy used scientific methods and did not rely on theoretical principles alone. He used a "fifteen string" ,monochord to confirm his conclusions.

Table 1 gives a comparison of the interval ratios of the Pythagorean/Eratosthenes/Ptolemy's "ditonic" diatonic and the just/Ptolemy's "syntonic" diatonic tunings. Also shown are closest approximate ratios for the equal-tempered scale on the same basis. The just major sixth 5:3 and major seventh 15:8 are inversions or octaves of the superparticular minor third 6:5 and minor second 16:15. Ptolemy's other tunings were of no significance in later western European music.

	C	D	E	F	G	A	B	C
Just	1	9:8	5:4	4:3	3:2	5:3	15:8	2
Pythagorean	1	9:8	81:64	4:3	3:2	27:16	243:128	2
Equal-tempered	1	55:49	63:50	578:433	433:289	37:22	185:98	2

It is believed that since ancient Greek music had no harmony relied upon finer shadings of intonation in melody to produce musical expression. Just as in some present-day eastern countries, the ancient Greeks were evidently sensitive to finer interval differences than those adopted in later western European scales. Besides the quarter-tones of the enharmonic genera, ancient Greek music contained other intervals unfamiliar in conventional western music. Among these were intervals based on the number 7 – the septimal third 7:6 (267¢), the septimal second 8:7 (231¢) and the septimal semitone 28:27 (63¢). Another unusual series consisted of the "three-quarter tone" intervals of Ptolemy's "even" diatonic (*diatonin homalon*) tetrachord: 10:9 (182¢) x 11:10 (165¢) x 12:11 (151¢).

The scales and tuning of music in performance in ancient Greece reached greatest complexity during the classical age (about 450 to 325 B.C.). Then a trend toward simplification began. By the time of the start of the Roman Empire, music of performance had become quite simplified. However, this change was not reflected in the study of music theory which continued to retain scales and tunings that had disappeared from performance as well as some that had existed in theory only.

INFLUENCE ON LATER MUSIC THEORY

The studies that stand out in primary importance are those of Pythagoras, Aristoxenus and Ptolemy. They were influential not only in Greece, Alexandria and Rome, but they also served as foundations for new scale systems that developed after the end of the Roman Empire. The works of Aristoxenus and Ptolemy that appeared in Arabic and Byzantine editions were a major influence in the Near East. However in medieval western Europe when the study of music theory was revived and expanded, Pythagorean doctrines, as presented by Boethius were followed. Boethius, considered "the father of Christian music theory" did not do much more than rewrite and translate earlier works of Pythagorians and Neopythagorians. His *De institutione musica* became the leading guide in the development of ecclesiastical music.

This concludes the series on ancient Greek music. References will be discussed in a future article.

IN THE FIELD

Ben McKlveen, RTT
Cincinnati Chapter

Anatomy of a Business

A number of years ago a book called *The Anatomy of a Murder*, by J.D. Voelker, appeared on the market. The story was a fascinating exploration of the position, relation, structure and function of events and people involved in the crime of murder. Borrowing from the idea of this book, I have titled this month's article "The Anatomy of a Business." Specifically a tuning business. Those of you who are just beginning your careers may find my observations useful, I hope. Those of you who are established will find grains of recognition based on your own experiences.

Someone once coined a phrase that said ". . . the only constant in this world is change." Artie Shaw said it when in explaining the title of his book, "The Trouble With Cinderella," he stated that there was no such thing as "living happily ever after." If one were to extend the fairy tale beyond that closing line, he would find that the Prince eventually became King with diplomatic discussions, foreign policy and political distractions. Cinderella had kids, got bored with palace life and became a middle aged matron. It is much the same with a tuning business. Change is inevitable. Whether that change is good or bad depends on many factors.

Starting a career is a little like a marriage. It should be preceeded by some reflection, some training or study and some projection toward future goals. Once entered into, the direction of the career is affected by many influences. A business cannot be conducted in a vacuum. A big factor in the progress of a business is people. Sid Caesar did a monologue on television in which he was shown leading an imaginary child to school for the first time. He said to the child, "Now, kid, this is going to be the beginning of school for you. I want you to pay attention in there. You're going to hear names – lots of names – names like Washington, Lincoln, and Jefferson and Franklin. Learn 'em and learn 'em good! Because when you get out of school, it's who you know not what you know." I would modify that humorously cynical statement to read: "It's who you know *and* what you know."

". . . the only constant in this world is change."

People do make a difference. From the time I began my career in 1948 until today, there have been dozens of people who have had an influence on the positive progress of my career. First, there have been people who have instructed me, suggested changes in the way I did things or shown me different or better ways of working. One of the basic values of Guild membership is the opportunity for learning through exposure to the best people in the business.

There are other people, too. They are called clients or customers. They buy our services and they, through their association with us, determine to a large degree who else uses our service. if they like us and like our work, they recommend us to others. They may control the service of just one piano, the piano in their home, or they may control a group of pianos, like those found in schools or churches. But the interpersonal relationship is the key to whether we work or not.

Sometimes the people factor can be capricious. I have tuned happily for a number of years in a suburban school system working with a supervisor who was also a musician friend of mine. Suddenly, he retired and I was no longer employed as the school tuner. His replacement either didn't know me or had his own friend who tuned pianos. It *is* who you know as well as what you know.

Have you had people use your service and then switch to another tuner? Of course you have. We all have – it happens all the time. It is part of people unpredictability. In my early years in the business I was almost compulsively conscientious about my work and was emotionally destroyed if a client abandoned me in favor of another tuner. I felt is was a reflection on my work. Generally, it wasn't that at all. It was happenstance. It was the people factor again. Most often, if you do good work it will be recognized and you will be asked back again, but not always, so don't count on it.

A clientele is like a living organism where cells are dying and being replaced with new ones. People use pianos for many years, then the children grow up, go away to school, leave home and the piano is neglected. The head of the household gets a better job and is transferred to Boston. For you, it is a dying cell and for someone in Boston a new cell is born.

Starting a career is a little like a marriage. It should be preceeded by some reflection, some training or study and some projection toward future goals.

There are a lot or reasons why a client will leave you or change tuners. Beyond a healthy interest in your own competence, do not become paranoid and assume the worst. That's life and change is part of it.

Change in yourself and in your goals is also a fact of life. In her book "Passages", Gail Sheehey suggests that life evolves in blocks of time that require re-evaluation or change every seven to ten years. A piano service is no exception. In the first few years, when experience is slim, and customers are few, many tuners will opt to work for a dealer where there are many pianos to be tuned and perhaps a mentor in the form of an older tuner or a service manager who is available to help season technical skills. But sooner or later other opportunities beckon and change occurs.

The field of piano technology is so wide and varied that it is impossible for a technician to do well in all phases of it. For example, you can do tuning, repairing, restoration of old pianos, rebuilding, regulation, building and rebuilding of baroque instruments like harpsichords and clavichords, player pianos and other reproducing instruments, institutional work, recording and concert work, the list is long. Most of us have a shot at many of these activities some time in our career, but eventually our interests and our special skills, coupled with our own special opportunities will distill what we do down to

a manageable number of endeavors. No two of us do exactly the same things or have identical interests. Certainly, one of the charms of my local Guild chapter is the wide variety of skills represented and the gracious way in which these talents are shared.

The process of aging in this business holds its own special opportunities or perils. Attitude has a lot to do with how well

The process of aging in this business holds its own special opportunities or perils.

a person negotiates the aging process. I remember a highly touted tuner in my area when I was a beginner. His card read "35 years experience." What he actually had, I learned later, was one year's experience repeated thirty five times. To my knowledge, he never attended a seminar, a convention or a class of any kind, never joined an organization, read a trade journal, sought help from a colleague, or gave a helping hand to a younger tuner. He never grew up, never expanded his skills or his horizons. He was in his later years, a egocentric, crotchety old man of very limited skills.

The dividends of personal and professional improvement pay off in more than monetary gain as our lives and businesses progress. There is a great deal to be said for satisfaction, the joys of communication, the sheer fun of being involved. It has to do with one's feelings of self respect. I do not believe that we are born with a great self-image. I think we, as humans, all seek a good image of ourselves but as children we must depend on others to get some idea of how we stack up in the scheme of things. Parents and teachers, fighting their own insecurities often are not very helpful in bringing children around to a condition of self-realization. Very often this is delayed until middle age and is a difficult internal problem at best. But efforts at agreeable self improvement in both personal and business skills speeds the process and in addition can be great fun.

An example of the joy of living coupled with many and varied cultivated skills is illustrated by the following story: I was working as the oboist in the pit orchestra of the show "Oliver." The conductor and the concertmaster were both New Yorkers. During the week they performed in Cincinnati, they attended a matinee performance of the Cincinnati Symphony Orchestra. Of special interest on the program was the Double Concerto for Violin and Cello by Brahms. Commenting on the concert, the violinist from New York said, "Today your symphony played Brahms – and Brahms lost!" "Sour grapes!" I thought, as I went in to play the show. At the end of the performance as we were packing to leave, the violinist tucked his violin under his chin and began the opening bars of the Brahms Concerto. The conductor, on his way out of the pit, heard the notes, returned, slid onto the piano bench, and began to play the orchestral score on the piano. Several minutes passed as they played together, from memory, the work they had heard that afternoon, until somebody goofed. With a chuckle and gentle ribbing of each other they left the pit.

I looked at these men in a different light. Truly, they had knowledge, skill and training far in excess of what was required of them for the show "Oliver!" It made them versatile, confident and able to enjoy what they were doing.

So, beyond basic training, the bare bones of business, the anatomy includes the ability to cope with change, to deal people, to aim at distant goals and try to achieve them through self improvement, and a positive attitude. With a little bit of luck, you will have created some financial security for yourself, given competent service to many, conquered the problems of self esteem and had a lifetime of fun doing it.

After Touch
Continued from page 17

Now go through the same section the second time, this is the fine regulation. Depress each key in rapid succession, trying to find any which are not uniform to the others. Then, depressing a group of four to five keys at a time with one hand, feel the tops of the keys with the other hand. This is similar to regulating the key height, but now the keys are in the depressed condition. Doesn't it make sense that the keys should be perfectly level in both the up and the down position? If any keys are felt to be at a different level than the rest,go searching for the reason. Something is not correct in the rest of the regulation steps previously performed.

We know that the aftertouch is correct, so the first place to look is with the key in the up position. If the key is level to its neighbors in the up position, but not level in the down position, check the blow, let-off, drop, and jack alignment to the knuckle. It might be that all four of these are a little off. More likely, or rather for easier trouble-shooting, just one of them may be the problem. Whatever the cause, correct it, and readjust the punchings so that the correct aftertouch is restored, then recheck the key again in the down position. It is ideal to have all 52 natural keys to be level in the up and down position as well as having uniform aftertouch.

Notice that I never once used a key dip block. This is by far the most accurate method of setting the dip, for it directly achieves the results that a key dip block is supposed to give but often does not. The way I regulate uses aftertouch as the means of evaluating whether the entire action has been well regulated. The other method of setting the dip with a key dip block and seeing whether or not aftertouch exists is nowhere near as accurate a method.

I have asked many technicians who regulate the key dip block method how they use aftertouch in their regulating process. Most tell me that they just check to see if aftertouch is present, a sort of proving-out of the regulation process. Never are they concerned with the amount of aftertouch, or whether it is consistent from note to note, but only with the fact that some aftertouch is present. Watching the amount that the hammer rises after drop is unimportant. Yet I have seen their finished product. Some keys have way too much aftertouch. Others right next to them may have barely enough to complete the escapement cycle. these technicians can't seem to figure out why an artist complains that the action isn't uniform, when the tuner had just spent hours "regulating" the piano. *To be continued next month.*

Coming Events

Notices of seminars will be accepted for insertion in THE JOURNAL no sooner than six months before an event. In addition to the listing below, your seminar may be publicized through one free display ad, two columns by two inches deep. It is the responsibility of the advertiser to submit copy for the ad to the Home Office. Material must be received six weeks prior to the publication of THE JOURNAL.
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The Tuner
Continued from page 16

on my hammer which allows a very small amount of movement on the pin which enhances the snapping action of the wrist. For raising pitch, some tuners use the Mehaffey impact hammer available from a West Coast Piano Supply House.

The position of your hammer on the tuning pin is also important. On vertical pianos most all tuning instructors suggest the hammer be placed on the pin at the 10 o'clock position as possible. For the right handed tuner, I suggest you stay close to the 12 o'clock position.

On grand pianos, tune right handed with the tuning hammer in the 3 o'clock position. When you get to the top treble section, you can switch to your left hand with the hammer in the 12 o'clock position. You can also stand at the end of the keyboard using your right hand on the tuning hammer in the 12 o'clock position.

There are tuners who feel you should stand while tuning a grand. My reason for sitting is twofold. First of all, I have a back problem and I am prone to doing things the most comfortable way I can find. Also, I feel strongly that you should be comfortable in tuning. It removes another distraction from your concentration.

A basic thing to remember is the tuning pin must turn. You must develop a sense of feeling to know if the pin is turning or twisting. For an easy way to see what happens when a pin twists, drill a hole for a hammer shank. Take a hammer shank and draw straight lines from one end to the other. Drive it into the hole, place a pair of vice-grips on the end away from the hole and twist. The lines that you drew will now have a curve to them. This is what happens to the tuning pin if it doesn't turn in the pin block. If you leave the shank you twisted long enough, it will return to its original position, just as the tuning pin will do also. Leaving a twist in a tuning pin is unacceptable. It will not result in a well-tuned piano. It may sound good when you leave but in a few days you will receive a call to go back and do it over again.

There are many methods to develop good hammer technique, all of which have validity. Rather than confuse you with any more suggestions and methods, start with the method I have outlined above and when you feel a little confidence start to creep in, be creative and start to develop a technique that best fits you. Be sensitive to everything you feel and hear. If something happens on a continuing basis and you don't know why, follow rule number three.

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PIANO PARTS AND THEIR FUNCTIONS, The Piano Technicians Guild, Seattle, 1981

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Meeting & Sales Portfolio — 16"x12" — Navy $1.75		
Piano Service Appointment Forms— small, green 6-part 100/$14.50		
Piano Service Contract — letter-sized, 3-part, 25¢ each		
Piano Service Sales Agreement — letter-sized, 2-part 10¢ each		
★ **Pocket Protectors** — white vinyl with blue logo — 3/$1.25 — 6/$2		
P.T.G. Notebooks — 9"x5 1/2": 1/$2.50		
★ **Service Stickers** — red and blue with logo. Plain — 100/$4 — 200/$6 — 500/$12 Imprinted with your name/address — $45/1000		

Item	Quantity Ordered	Total Price
Tape Measure — 6' metal: 1/$3.00		
Teacher Recital Program Covers — 100 for $8		

JEWELRY

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★ **Tie Tack** — gold with blue and white logo — 1/$3 — 3/$6 — 12/$18		

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Item	Quantity Ordered	Total Price
Chapter Publicity Manual — $5 each		
Index of Journal Articles — 1/$25.00		
Pamphlets — 100/$11 — 500/$50		
A-440 and Your Piano	OUT OF STOCK	
Baldwin Postcard		
Care of Your Piano		
"How Often Should My Piano Be Tuned?"		
Piano Pointers		
Reminder Cards		
"Should I Have My Piano Tuned in the Summer?"		
The Tuner To Turn To		
The Unseen Artist		
Piano Action Handbook — by Merle Mason — $2.50 ea		
What is a Registered Piano Technician? — card with Code of Ethics — 7¢ each		
All items below are available free from the Home Office.		
Lending Library List		
List of Manufacturers & Suppliers		
Magic Kingdom Club Application		
Members Benefit List		
Reader's Digest Reprint: "The Other Masters of the Keyboard" — limit 10 per order		
"The Piano Tuner — Technicians		
What is The Piano Technicians Guild?"		

* **For use by Registered Technicians only**

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Enclose check or money order for this amount **TOTAL U.S. FUNDS**

Name _____

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City/Stateor Province _____

Zip/Postal Code _____ Phone _____

Chapter _____ Nonmember _____

Member's Number _____

MAIL TO: PIANO TECHNICIANS GUILD
113 DEXTER AVENUE NORTH
SEATTLE, WASHINGTON 98109

PLEASE FEEL FREE TO PHOTOCOPY THIS ORDER FORM

PTG Form 7

BUSINESS BUILDING

David Tabachnick, RTT
Long Island Chapter

In building your business, the importance of how you handle telephone responses can't be overlooked. Getting a new customer to call and inquire about your services is an important first step in building a business. The ability to keep customers is equally important and will be determined by how well you relate to customers and how satisfied they are with your services.

The telephone response is the customer's first impression of you and the service you will provide. You can very often win confidence by the way you handle a new inquiry. After all, any person who calls has the potential to recommend other people to you, and therefore increase your business volume.In most cases, your first conversation and first meeting can result in a long-term business relationship.

Answering Telephone Responses

Upon receiving an inquiry for piano service, a prompt call back is the first order of business (assuming the inquiry is a message on your service, or a call taken by someone other than yourself.) If possible, return the call the same day or evening. The appointment can be scheduled even a few weeks away, but get to the customer immediately.

Being relaxed and pleasant is extremely important. Try to get a feel for the needs and requirements of the customer and the instrument. Give the basic information as to the standard tuning fee. Try to introduce information in a clear and concise way.

A basic tuning fee is for a piano in good working order, that has been tuned on a regular basis (approximately two times a year). If the piano has not been serviced regularly, there is the possibility of additional tuning work and therefore, a higher fee. It should be made clear that this can only be evaluated at the piano and discussed at that time.

Most people understand that if they were negligent of proper service their instrument may need more than just a tuning.

If a new call comes in and you recognize it as a local artist, prominent teacher, owner of an exceptional piano, etc., let this person know you are sensitive to their needs. Make it known that as you acquaint yourself with their instrument you will keep them advised as to what the instrument needs to keep it in top condition.

Don't argue with the customer whose piano has never been tuned and is only willing to spend the standard tuning fee. If you feel you can have a professional relationship without compromising your ethics, fine. If not, politely express your opinions but don't argue and antagonize the person on the other end of the phone. This will not be beneficial to you in any way.

First Meeting With New Customer

Always think of the first impression you make as a mirror image of your professional relationship. If you have a confident, positive approach, the customer will be made to feel comfortable right away. However, as we all know, nobody bats 1000.

Your general appearance will probably say more than anything else. Be well-groomed. Carry your tools in a professional-looking case. Remember, you don't want to turn somebody off by dropping down a tattered-looking case on their living room carpet.

Review in your own mind whatever phone conversation you had so you can concentrate on the piano without having to ask the same questions you already asked on the telephone.

Waste no time. Get to the piano and appraise the situation in your own mind. If repairs or additional tuning work is necessary, try to explain it at the piano. Illustrate whatever you can. For example, if the keys are sticking, explain how they can be eased. Give an approximate price. Show the customer how each key will be removed, eased, and then put back.

People are more likely to feel at ease if they can actually understand the problem and its solution by seeing it first-hand.

It is extrememly important to listen to what the customer says. You can get a good feel for what their needs and requirements will be by just a little good communication. Don't be afraid to appraise situations honestly and openly, even if you feel uncomfortable with a piano on poor shape. Remember, some pianos will never deliver the quality the owner may require. They can be apprised of this in a diplomatic way. Make them aware of the limitations and that you will do your best under the circumstances. Remember, not everybody's budget can meet their needs.

As you finish up the piano, explain to the customer what was done. Give information as to proper follow-up and maintenance. Explain how often the piano should be tuned and when the next appointment should be. Try to set up a regular schedule.

If the person who plays the piano is home, ask them to try it. Leave your customer with a business card.

Being able to communicate effectively in your telephone conversations and first meetings with new customers can be one of your best business expanding opportunities. People are always anxious to find out about efficient and reliable service contractors. The best advertising anyone can have is a happy customer.

The Piano Technicians Foundation

The Steve Jellen Memorial Library

Year	To Honor	Donation From
1980	Stephen S. Jellen	Wendell Eaton
	Paul Cheatham	Piano Technicians Guild
	Walter Stevens	Dallas, Texas Chapter
1981	Carl Wicksell	Piano Technicians Guild
		Ernest S. Preuitt
		Charles Huether
		Brian Scott
		Faith Lutheran Church
	Reginald Moore	Ernest S. Preuitt
		Wichita Chapter
	Aubrey Willis	Piano Technicians Guild
		Ernest S. Preuitt
	Henry MacConaghy	Piano Technicians Guild
		Ernest S. Preuitt
	Floyd Qualls	Piano Technicians Guild
		Ernest S. Preuitt
		Jesse Lyons
	Ben Berman	Charles Huether
		New Jersey Chapter
1982	Stephen S. Jellen	F. Kelso Davis
		Bob Russell
	Bessie Ludman	Hyman Ludman
	Carl Wicksell	Past Presidents Club
	Aubrey Willis	Past Presidents Club
	Henry MacConaghy	Past Presidents Club
	Paul Cheatham	Past Presidents Club
	Floyd Qualls	Past Presidents Club

The Piano Technicians Scholarship Fund

Year	To Honor	Donation From
1981	George Young	Ernest S. Preuitt
1982	Pauline Miller	Norman Miller

Continued from page 7

helped chapters receive the recognition they deserve as the grass roots of The Piano Technicians Guild.

Last year Marshall was elected as the Southeast Regional Vice President. He believes that the Guild is just now coming into its own, and wants to aid with its development by helping technicians recognize their weaknesses both technically and in business. He says, "When we can recognize our weaknesses we can then build our strengths, which will carry us into the turn of the century as a strong, viable professional organization, fully recognized by all who own and play pianos."

Carthage College and Catholic University of America provided Hawkins with the formal education required for the years of teaching and directing bands. He found these occupations rewarding, but he says the day to day exchange with the people in this piano world provides just the perfect balance. While interested in other business pursuits, he intends to keep busy building his rebuilding business and helping other people become established in the field of piano technology. "The more I learn, the more I know I don't know, but I get a big charge out of sharing whatever I can with others.

—Marshall Hawkins

The Piano Technicians Foundation

The board of directors has authorized legal action to establish THE PIANO TECHNICIANS FOUNDATION to which members, family, friends, chapters and other supporters can make donations.

Donations may be sent in memory of one who is deceased, or in honor of a person who has been a special inspiration or made a significant contribution to the profession and/or to the Guild.

The new Foundation will have three categories:

The Steve Jellen Memorial Library.
The Piano Technicians Fund for Research and Development.
The Piano Technicians Scholarship Fund.

All donations to the Foundation will be published in the *Journal* showing the name of the donor, the person honored and the category specified for the donation.

A memory book, maintained at the Home Office, will be available for review at the annual conventions and will show the names of those honored and the donors.

Donations should be made out in the name of the Piano Technicians Foundation and sent to the Home Office at 113 Dexter Avenue North, Seattle, WA 98109. Please send the form below with your donation or a letter giving the same information.

I wish to honor _____ by making this donation _____

to the _____ category

OF THE PIANO TECHNICIANS FOUNDATION

signed _____ date _____

address _____

PIANO TECHNICIANS GUILD

25TH ANNIVERSARY CONVENTION
ADVANCE INFORMATION

July 5 - 9, 1982
The Capital Hilton Hotel
Washington, D.C.

REGISTRATION FEES

Guild Members	
Postmarked by May 1 (Early Bird)	$ 95.00
Postmarked after May 1	115.00
Non-Guild Member	
Postmarked by May 1 (Early Bird)	180.00
Postmarked after May 1	200.00
Private Tuning Tutoring Class	35.00

SPOUSES AND CHILDREN

Auxiliary Member	40.00
Non-Auxiliary Member	50.00
Children (15 and under)	10.00

OPTIONAL FUNCTIONS

Banquet	25.00
Closing Luncheon	15.00

TOURS

Washington D.C. by Night 28.00 Adults
24.00 Children (12 and Under)

A four hour tour with country supper, champagne, and viewing the fireworks from the Lincoln Memorial

Smithsonian Museum of American History 4.00 per person

At the Smithsonian Museum of American History (formerly Technology) in the Hall of Musical Instruments a lecture-recital on antique keyboard instruments.

THE CAPITAL HILTON HOTEL RATES

Singles	$50/60/70/80
Doubles	$70/80/90/100
Suites	$125 and Up

Convention registration packet including hotel room reservation reply card will be mailed during March.

A Capitol View In '82

Preliminary MEMBER CALENDAR

Saturday - July 3, 1982	Registration Open
Sunday - July 4, 1982	Council in Session Registration Open Council in Session
Monday - July 5, 1982	Chapter Workshop Registration Classroom Setups Council in Session Regional Caucuses Council in Session/Officer Elections Opening Assembly Exhibit Opening/Ribbon Cutting
Tuesday - July 6, 1982	Exhibits (Drawing) Membership Services Registration Open Institute Classes in Session Board Committee Appointments Exhibits (Drawing) Institute Classes in Session Feminine Technicians Meeting Young Technicians Meeting
Wednesday - July 7, 1982	Exhibits (Drawing) Membership Services Registration All Day at Office Institute Classes in Session Exhibits (Drawing) Institute Classes in Session No Host Cocktail/ Reception Banquet
Thursday - July 8, 1982	Exhibits (Drawing) Membership Services Registration All Day at Office Institute Classes in Session Membership Services Open Exhibits (Drawing) Institute Classes in Session
Friday - July 9, 1982	Committee Meeting Exhibit Finale (Drawing) Institute Classes in Session Closing Luncheon

You will be receiving the Convention Registration Packet during the month of March. This will include Convention Registration and Hotel Room Reservation Forms.

AUXILIARY CALENDAR

All non-technicians attending this convention are invited to register for and participate in the Auxiliary program.

Sunday - July 4, 1982

The Auxiliary Center will be open while Council is in session. A special Fourth of July celebration has been planned for the evening by the Washington, D.C. Chapter of the Guild.

Monday - July 5, 1982

The Auxiliary Center will be open while Council is in session. When you arrive at the hotel stop by the South American Room to say hello.

During the afternoon various projects, including leather tuning fork case kits, will be available.

In the evening the convention officially begins with the Opening Assembly at 7:30 P.M.

Tuesday - July 6,1982

Come see the sights of Washington from a double decker bus!

8:45	People going on the morning tour or the all day tour meet in the South American Room. Buses will depart promptly at 9:00 a.m. People on the all day tour will have lunch on their own at the Smithsonian Museum.
1:45	People going on the afternoon tour meet in the South American Room.

The afternoon tour and the all day tour end at 5:00 p.m. All tour tickets should be purchased in advance. The Auxiliary Center will be open all day.

Wednesday - July 7, 1982

9:00 to 10:00	The Auxiliary's Opening Assembly.
10:00 to 10:15	Break (Members at large will meet during this time.)
10:15 to 11:45	Auxiliary Council.
1:30 to 3:30	A Silver Anniversary Reception (light refreshments with music and entertainment by the Cameron String Quartet. Open to all who register for Auxiliary activities.
3:30	Rehearsal of the "Key Notes." All interested singers invited to participate.
6:30 to 7:30	Hosted cocktail reception.
7:30	Banquet

Thursday - July 8, 1982

9:00 to 10:00	Morning session with exhibitors and manufacturers.
10:00 to 11:00	The Auxiliary's panel of piano service experts answering your business questions.
1:00 to 2:30	Installation Luncheon (included in registration) with piano music by Deanna Grove.
2:00 to 3:30	International debut of the "Key Notes."

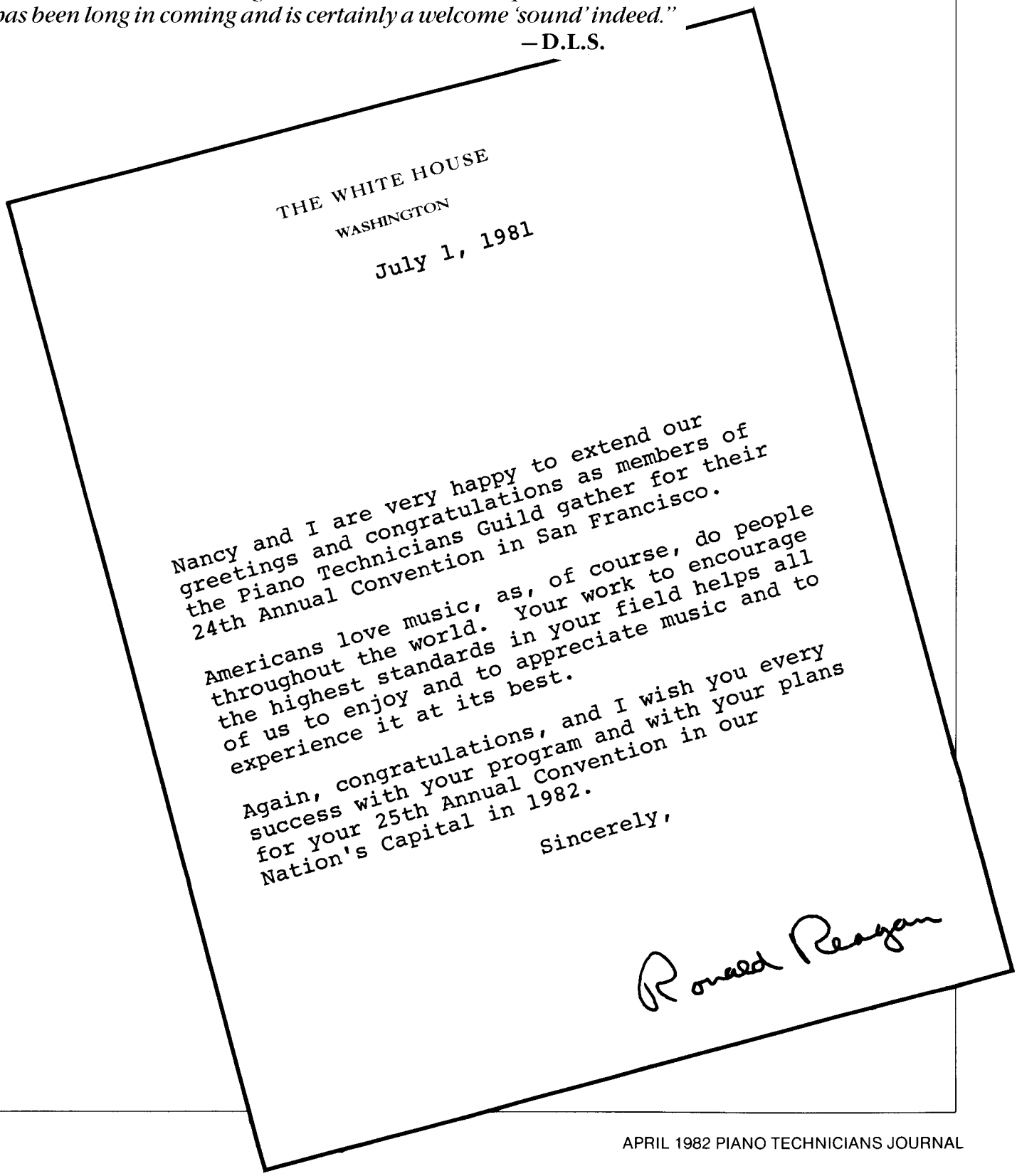
Friday - July 9, 1982

9:00 to 10:00	A special event: Sylvia Symington (Mrs. James Symington) will share her insights about life in the Nation's Capital. The rest of the morning the Auxiliary Center will be open so you can relax and visit some before the end of the convention and the closing luncheon.

"In San Francisco last year, we received a message from President Reagan and his wife Nancy, with congratulations for our 24th Silver Anniversary Convention in Washington, D.C. this year."

"The Guild's contribution to the world of music has thus been officially recognized by the leader of our land. This is a gratifying honor and one we appreciate a great deal The 'sound' of the Technician at work is gradually being recognized outside of the concert hall and the living room and well into the public arena. It has been long in coming and is certainly a welcome 'sound' indeed."

—D.L.S.



THE WHITE HOUSE

WASHINGTON

July 1, 1981

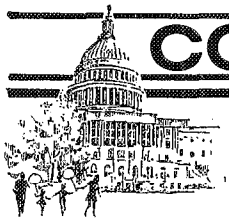
Nancy and I are very happy to extend our greetings and congratulations as members of the Piano Technicians Guild gather for their 24th Annual Convention in San Francisco.

Americans love music, as, of course, do people throughout the world. Your work to encourage the highest standards in your field helps all of us to enjoy and to appreciate music and to experience it at its best.

Again, congratulations, and I wish you every success with your program and with your plans for your 25th Annual Convention in our Nation's Capital in 1982.

Sincerely,

Ronald Reagan



CONVENTION

Technical Institute Preview, Part III

Teddy Primack

So many course descriptions have been received from instructors at the upcoming National Convention in D.C. that, having sorted them out and done a little pencil work here and there, I can happily sit back and let them speak for themselves.

HISTORICAL SURVEY OF THE AMERICAN PIANO INDUSTRY — **Charles Huether**

A slide presentation with running commentary following the development of the piano industry in the U.S. in the late 19th Century and early 20th Century "when there were almost as many piano factories as there were breweries". The emergence of piano technician organizations is also traced 1½ hours.

LIGHT PIANO TOUCH-UP & REFINISHING — **Angelo Mastagni**

Case touch-up as an adjunct skill for piano technicians. Repairing dents, gouges, worn edges, alcohol and water marks. Basic materials and techniques for treating varnish and lacquer finishes. Use of the burn-in knife, stains, colors, solvents, rubbing and polishing compounds, French polishing. "The class should encourage the novice to get started, and furnish answers to those who are experiencing difficulties." 1½ hrs.

BUSINESS BUILDING — **Phil Bashaw**

A class designed to guide both old and new technicians into putting their piano service business on a broader and more secure foundation. "Topics include self-motivation, organizing your business, salesmanship, getting and keeping clients and telephone techniques." 1½ hrs.

ADVANCED PLAYER REPAIRS — **Norm Heischober**

Servicing Aeolian, Kimball and Universal players in the field. Repairing, rebuilding and maintaining old players. Designing and constructing home-made nickelodeons. Service problem clinic, including reproducing pianos, with emphasis on Duo-Art. "Not a beginner's course, but intended for advanced technicians who have been doing this work. We presuppose a knowledge of how each part operates." 1½ hrs.

HAMMER MANUFACTURING & VOICING — **Ari Isaacs**

A Canadian piano rebuilder, Ari Isaacs is one of the most conscientious and articulate students of piano hammer construction in the trade. His historical erudition, a result of intriguing archeological researches into hammermaking, is combined with modern engineering expertise, and the pragmatic testing of how newly-pressed hammers actually sound on a standard piano of known characteristics.

When he addressed the NYC Chapter on this subject in March 1981, someone wrote: "His presentation was one of the finest, most thoughtful and dignified talks on the piano that I have ever encountered . . . a beautifully spoken challenge which should rouse many 'instant experts' from their dogmatic slumbers." In the voicing section, the demonstration will be followed by hands-on participation. "People will get up and do things," Mr. Isaacs states cryptically. 3 hrs.

TUNING TECHNIQUES — **Larry Bowen**

Electronic tuning devices (Sight-O-Tuner, Electro-Fork, etc.) as a means of enhancing one's ability as an aural tuner. "There is a new breed of aural tuners who have begun to refine and upgrade their tuning techniques with aural and visual electronic tuning aids. These will be demonstrated and discussed, along with methods I have found useful in their employment." 1½ hrs.

COMPUTERIZED SCALE DESIGN — **Jim Hayes**

"The class will cover the basic formulas that control string behavior. Characteristics of brass and iron wire will be examined by use of a special string rack. Using a micro-computer, an ideal scale will be graphically displayed. Various scales of measured pianos will be compared to the computed ideal scale. Computing wire diameter for any measured scale will discussed. Finally, a new analogue method of scale evaluation will be demonstrated."

Next month: Special technician classes developed for the Convention by the manufacturers, and more old favorites.

1981 - 1982 MEMBERSHIP BOOSTER CLUB

MEMBERSHIP POINTS

Five (5) points will be credited for bringing in a new registered technician, four (4) for an apprentice, three (3) for an allied tradesman and one (1) for all other memberships.

PRESIDENT'S CLUB

Those who achieve 15 points will receive the President's Club ribbon. At the Awards Banquet each will be presented with the 1982 President's Club pin, and the member who has the most points will be announced and honored.

RESTORER'S CLUB

Those who bring in a former member will receive the Restorer's Club award ribbon in addition to the point credits.

BOOSTER CLUB

Everyone who brings in a new member will receive the Booster Club ribbon at the convention.

NOTE:

Your name and your own chapter should be shown IN PRINT on the candidate's application on the line "recommended by", for your guaranteed full point credit. (Sometimes credit cannot be applied because the sponsor's name cannot be deciphered).

CORRECTIONS

Should there be a need for correction on the Booster Club or other lists, please notify the Home Office promptly. We want you all to receive full credit at all times.

Booster Club	Pts.	Mbrs.
ANDERSON, Robert A.	1	5
ASHEN, J.G.	1	1
BAKER, Elizabeth	1	1
BALGIAN, Agnooni	4	1
BENEDICT, Herb	1	3
BITTINGER, Dick	1	1
BRADY, Stephen H.	5	1
BRIDGES, Nate	1	4
BULLOCK, William	5	1
CALLAHAN, James J.	1	1
CAMPBELL, James	1	1
COLEMAN, James W., Sr.	1	1
CONNOR, John	2	10
CONOVER, Leslie	1	4
COX, Merrill W.	1	1
CRABB, Larry	3	3
CUNNINGHAM, Jess	1	3
DEUCHAR, William	1	1
DROST,Michael A.	1	1
DUNCAN, David	1	1
ERWIN, Harold	3	1
EVANS, Daniel A.	1	1
FARRELL, John	5	1
FLINT, Neal R.	1	5
FOX, Lee	5	1
FRANZ, Dennis	1	1
GARRETT, Joseph A.	1	1
GILLER, Evan	10	2
GOODWIN, Garland	5	1
GREENWAY, Alton, William	5	1
GRENNING, Albert	5	1
GROSSMAN, Matthew	1	4
HAINES, Roy	1	1
HARMON, Clayton C.	1	1
HARRIS, Dale	5	1
HAUSMAN, Donald	1	1
HAWKINS, Marshall	5	1
HENRY, Fern L.	5	1
HERWIG, Lewis	3	1
HESS, James	5	1
HIGBY, James H.	5	1
HILBERT, Felton	1	1
HINSON, W.L.	1	5
HOFSTETTER, Robert	1	1
HUNT, Newton	8	2
JESCHKE, Alfred	10	2
KEAN, Kerry	4	1
KOKTAN, Paul	8	2
LAFON, William I.	5	1
LUY, George	1	1
MARCIANO, William	3	11
MASTAGNI, Angelo	1	1

Ernie Preuitt Vice President

McANNINCH, Daniel	2	6
McKAY, C. Guy	1	1
McKLVEEN, Ben	5	9
McMORROW, Edward	5	1
MEEHAN, Joseph	1	1
MEHAFFEY, Francis	1	1
METZ, Al	1	1
MOBERG, Jonathan	1	4
MUCKALA, Marla	1	1
MULLER, George W.	1	4
NEIE, Gary	5	1
NELSON, Robert	4	1
ODENHEIMER, Fred	1	1
ORRICO, Gerard	1	1
OUSLEY, Robert	5	1
PARKER, James	1	1
PERKINS, Robert	1	1
RAUDENBUSH, Fred R.	6	2
RICE, Fred O., Sr.	1	1
ROBINSON, Marion	4	1
RUSSELL, Bob	1	1
SANDERSON, Albert	1	5
SCHULTZ, Gary H.	10	2
SCIORTINO, Joseph	1	5
SCOTT, Dennis	1	1
SEWELL, Arnold M.	4	1
SPEIR, Leon	1	5
STONE, Sid	1	1
SYLVESTER, David E.	1	1
THILE, Scott E.	1	1
TUBLITZ, Evan	1	1
WALKER, William H.	1	1
WALKUP, Kenneth	5	1
WEST, Richard	2	2
WHATMOUGH, Alan	5	1
WILEY, John	1	1
WILLIAMS, Kenneth A.	1	1
WINSLOW, Allyn S.	1	1
WOLF, Robert	5	1
WOLTZ, Randall	1	1

Restorer's Club

CRABB, Larry B.
GREENWAY, Alton William
HAWKINS, Marshall
McKLVEEN, Ben
NEIE, Gary
OUSLEY, Robert
WOLF, Robert

1981 - 1982 RECLASSIFICATIONS

Reclassification To Registered Technician

Atlanta Chapter
DAUDELIN, Emmett J.
MILLER, Larry R.
REED, G. Timothy
Boston Chapter
STUART-VAIL, Robert

NEW MEMBERS

Registered Technicians

Calgary Chapter

McLAREN, Donald H.
Box 8015
Saskatoon SK S7K 4R7

WOJDA, Gerald C.
309 Spadina Cr. East
Saskatoon, SK S7K 3J2

Dallas Chapter

SYMES, Kerry M.
1721 S. Beckham Ave.
Tyler, TX 75701

Syracuse Chapter

KARWACKI, Joseph J.
6374 Cavanaugh Road
Marcy, NY 13403

Apprentices

Western Massachusetts Chapter

DANOS, Leonard C.
285 Allen Street
East Longmeadow, MA 01028

Students

Cleveland Chapter

PRADHAN, Deepak D.
Perkins School
225 Court Street
Elyria, OH 44035

Houston Chapter

WOLFE, William A.
1315 N. Fulton St.
Wharton, TX 77488

Indianapolis Chapter

HEPLER, David J.
1123 Stockton St.
Indianapolis, IN 46260

Las Vegas Chapter

ROBERTSON, Joe L.
5260 Crater Circle
Las Vegas, NV 89122

St. Louis Chapter

WILLIAMS, Janet R.
8400 Glen Echo Dr.
Bel Nor, MO 63121

Syracuse Chapter

KUPELIAN, Paul S.
RD #1, Box 50B
Constantia, NY 13044

ON MEMBERSHIP...

"PRIDE OF ASSOCIATION"

Ernie Preuitt
Vice President

This past Thanksgiving Day Lu and I decided to stay home. After a day of sleeping late, partaking of much ordinary food and light refreshments, watching football (what a tragedy, the Chiefs lost!), reading, even a little shop work and some paper work, we finally settled in front of the television to waste the rest of the day.

Somehow, the selection knob was turned to PBS, Channel 19 here in Kansas City. A program from the East Room of the White House was just starting. It featured violinist Ida Levin and pianist Rudolph Serkin. The violinist was superb, but to say the least, the exhilarating part for us was to hear that great pianist play Beethoven's "Moonlight Sonata" on that magnificent grand piano. The piano was superbly tuned, the voicing was perfect, and judging from the ease with which Mr. Serkin played, particularly the slow and soft passages, it must have been extremely well regulated.

How proud it made me feel to realize that I was part of the profession that made it all possible. I felt as if I personally knew the technician who prepared that piano.

When the program ended, credits were listed – director, technical director, producer, lighting, audio, sound mixer, cable mover, on and on they went – but nothing about the person without whose services the whole thing could not have happened – the technician who tuned, voiced and regulated the piano.

Of course I felt that someone was overlooked, but you and I know that the unseen artist is rarely credited for a job well done.

I'm still very well pleased and content just to know such people exist and that as a member of the Piano Technicians Guild I am part of it.

How about you?

AUXILIARY EXCHANGE

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PRESIDENT'S MESSAGE

Dear Member's and Friends of the Auxiliary,

This year's long-awaited spring thaw has finally arrived, and many of us in my part of the country have had enough winter to last for several years. In Washington, D.C., spring is always ushered in with cherry blossoms. Wouldn't it be great if they could keep all the cherry blossoms on the trees until we arrive in July?

Although we won't be having cherry blossoms in Washington, lots of other fine things will be waiting for us when we arrive at the Silver Anniversary convention. First there will be the hotel; it is a newly-decorated Hilton hotel just a few blocks from the White House. The Auxiliary activities as well as the institute classes, the manufacturers' displays and the banquet rooms are all centrally located and easy to find. Then there will be the people. The Washington Chapter of the Guild has thought of all kinds of finishing touches to make this Silver Anniversary convention special. And there will also be the schedule of activities. The technicians will have a super institute to attend planned by Wendell Eaton and his staff. And the Auxiliary (and other non-technicians who want to participate) will have a varied schedule of activities, too. We have planned a double decker English bus tour, a Silver Anniversary reception with a string quartet, a special presentation by Sylvia Symington (Mrs. James Symington), business classes, our own chorus and more. Your registration fee for the Auxiliary activities covers both the luncheon on Thursday and the reception on Wednesday in addition to all the other Auxiliary activities and classes except the bus tours. Bus tour tickets need to be purchased separately.

It's not even summer yet, but it is time to be making your plans for Washington in July. Not only can you save money by registering early and making your travel arrangements early, but you can give yourself and your family more time to look forward to the great times we will be having when we meet at the Capital Hilton in Washington July 5-9 for the super Silver Anniversary Convention.

I'll be looking for you there!

Julie Berry

The Cleveland Chapter of the Piano Technicians Guild Auxiliary would like to propose that the name of Luellyn Preuitt be placed on the agenda for honorary life membership in this organization.

"My first acquaintance with Lu was in Calgary, Canada, where she presented a beautiful 'rose' installation. From that time forward Lu remained in the spotlight as recording secretary, president, past president, and parliamentarian. She was always available when needed. All one had to do was ask and with a willing smile Lu would fill the void.

"For many years Lu spent hours filling the pages of the Auxiliary Exchange so we, the Auxiliary, would be a part of the Piano Technicians Guild. Some months Lu was the only contributor to this column.

"So you see, Lu has given unselfishly for many years because she believed in the Auxiliary, because she wanted to see it grow in strength and support for our Guild, and because she cared.

"Thank you, Lu, for a job willingly and well done."

The Cleveland Chapter hopes that the council in Washington, D.C., will vote unanimously to give Honorary Life Membership to the most deserving, Luellyn Preuitt.

Thank you,

Ginny Russell, Secretary
Cleveland Chapter Auxiliary

ROCKWELL PRINTS SOLD OUT

The Auxiliary's Second Vice President, Shirley Truax, announced recently that the entire stock of Norman Rockwell prints of "The Piano Tuner" has been sold. This was an extremely successful project for the Auxiliary, and we would like to thank all the people who ordered prints. We regret that some of the recent orders could not be filled because all the prints had been sold. Thank you for your interest in this project.

FROM THE FIRST VICE PRESIDENT . . .

"CAN YOU BELIEVE I AM A GRANDMA?" I asked a friend one day. I'm glad she didn't give me an honest reply. It is probably evident in more than one way – but I DON'T FEEL like a Grandma. That is, I don't feel old . . . I don't feel "worn out" . . . I absolutely LOVE my new role. Of course, I loved my role as mom, I love my role as wife, and I knew I would love my role as Grandma, but WOW . . . it is something else. I absolutely love those three little girls, Inga, April and Erika like you can't believe. I go shopping for me and end up in the children's department every time.

"CAN YOU BELIEVE . . . I AM THE WIFE OF A PIANO TECHNICIAN?" I'm so proud of that! He's my neat kind of hard working guy. Where do I fit into his world? How do I tell people in a social setting that my husband is a piano tuner? My husband's response to that last question is "I pull a lot of strings around town." Of course, it gets a laugh. I'M *VERY* PROUD to tell people about my dedicated piano tuner husband! Where do I fit into his work . . well, perhaps differently than yours, but each of us makes a very important contribution. I do not work in my husband's business per se. I have my own career. No one could handle Dick's work as well as he does . . . including the phone! I could never win the hearts of people like he does . . . so, how do I become a part of his world. Let me suggest:

1. I love him lots and lots . . . and affirm him constantly in the *excellent* job he is doing.
2. I listen to him – laugh when he laughs, understand when he gets super tired.
3. I make sure we have some nights out–just the two of us –with candlelight. (2 for 1 coupon!!! they're great)
4. I let him know he is the *greatest* tuner in these Twin Cities. (Of course, I really believe that – and my friends will want equal time.)
5. When he is happy at home, he will be a happy tuner – all day – every day! We have a mutual admiration team – he and I. It keeps us going. The most important people in our lives *THINK WE'RE O.K.!!*
6. Oh, almost forgot to tell you . . after a good day . . . I ride with him to take his money to the bank! I'M PROUD OF HIM!
7. I read much of the *Journal* (and I keep looking for his name) so I know some things about his work, some people in the organization.
8. Probably the greatest contribution I make to him is MY INVOLVEMENT IN THE AUXILIARY. He knows by this commitment I have made to the Auxiliary that I am saying "Hey, honey, I like what you're doing and I want to do my part." He is very proud to have me a part of our Auxiliary. I'm giving support to his heart – which is PTG!!!
9. LET ME CHALLENGE EVERY SINGLE WOMAN READING THIS ARTICLE . . .
   . . . get in there
   . . . get excited about that man and his work . . . I mean EXCITED!!
   . . . HAVE A POSITIVE ATTITUDE about you as a person – and him as a tuner
   . . . YOU CHOOSE TO BE HAPPY – or UNHAPPY!!

Let's set some goals to have a myriad of happy, involved, excited, creative spouses behind these super, wonderful, talented PIANO TUNERS of ours.

KNOW WHEN TO START!!! TODAY!!!
LET ME HEAR FROM YOU

Belva Fiegle

CHAPTER PROGRAM IDEAS

from Ginny Russell

Does your chapter ever sit around and talk about the contributions they make towards the piano technicians they represent? Do you ever exchange stories? Business tips are always interesting, and somehow we never have enough of them. Even though business classes are always given at seminars and conventions, many tips are very localized and pertinent only to certain areas. Exchanging procedures and ideas can be most beneficial to everyone, because everyone, one way or another, contributes something to the piano tuning business. There are so many stories and situations that are unusual that exchanging stories can be fun. (I'm sure a most interesting book could be written concerning "piano tuning" experiences.) So, one month just have your coffee and dessert and exchange ideas and stories.

HOW MANY TAXICABS?

There are over 2,000 taxicabs in Washington, D.C. and the fares are reasonable. Washington works on the zone system for taxi rates. The zones begin at the central city and spread outward. By law, basic rates must be posted in the cab. Since tourism is the leading private industry in Washington, D.C., with 12 to 14 million people visiting the city each year, it will be easy for us to visit and enjoy the Nation's Capital when we go there for the convention in July.

CLASSIFIED ADVERTISING

CLASSIFIED ADVERTISING RATES are 25 cents per word with a $7.50 minimum. Full payment must accompany insertion request. Closing date for ads is the first of the month prior to publication.

Box numbers and zip codes count as one word each. Telephone numbers count as two words. Names of cities and states count as one word each.

Send check or money order (U.S. funds), made payable to the Piano Technicians Guild, to Classified Ads, THE JOURNAL, 113 Dexter Avenue North, Seattle, WA 98109.

The Journal does NOT provide blind box service. Please include a mailing address and/or telephone number with your ad.

Ads appearing in this journal are not necessarily an official endorsement of the services or products listed.

FOR SALE

FOR SALE. Retiring Fairfield County Piano Repair. Complete rebuilding and refinishing shop. Will train new owner, call **(203) 255-1707, or write to 170 Pequot Avenue, Southport, Conn. 06490.**

PIANO TECHNICIANS JOURNAL for sale from January 1967 through February 1982. **Drew – 2501 SW 78th Court, Miami, FL 33155. Phone, (305) 264-7691.**

PIANO TUNERS ARE GRAND AND UPRIGHT PEOPLE. Send $3 for this special 3½" x 15" bumper sticker in attractive calligraphy: **Jacky Briggs, 1013 Fairmont Ave., W.E., Jamestown, NY 14701.**

CUSTOMER'S QUESTIONS? The Piano Owner's Guide will answer them between tunings! Inquiries welcome. Hardbound, $6.95; Softbound, $3.95. Trade discounts, terms. **Apex Piano Publishers, 1014 Kentwood Drive, Mountain Home, AR 72653, (501) 425-7057.**

CLASSIFIED ADVERTISING

WHIPPEN REBUILDING. Revive the "feel" of Steinway grand piano action. The piano action specialists at New England Piano Action Co. can completely rebuild and modernize Steinway Whippens at a cost far less than that of a new set. Other action rebuilding services available. Please write or call for more information and prices. **New England Piano Action Co., 6 Vernon St., Somerville, MA 02145. (617) 628-1591.**

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ZUCKERMANN HARPSICHORD KITS – A real challenge for the interested technician. Factory direct shipment at factory prices. Troubleshooting and advice for kit builders. Authorized Agent: **Yves A. Feder, R.T.T. Harpsichord Workshops, 2 North Chestnut Hill, Killingworth, CT 06417, Telephone (203) 663-1811.**

1903 STEINWAY B, Victorian legs. New soundboard, ebony finish, pinblock by Geers. New hammers, shanks, strings and pins by Ozark chapter. For pictures and info, **call Ken Carter, (816) 886-3034.**

FOR SALE: Well established, completely equipped piano service shop. Piano sales and rentals, tuning, major rebuilding of pianos, players, and reed organs. Ideal situation for man and wife team. Price and terms negotiable to right party. **Contact Raye McCall, 1078 E. Third St., Pomona, CA 91766. (714) 622-8826.**

FOR SALE – French Pleyel piano – built around 1875 – original ivory keys – recently tuned – good condition – **RT 3, Box 38D, Gulfport, MS 39503. (601) 832-2267 or (601) 832-2196 – asking $2,000.00.**

BEAUTIFUL LAMINATED Maple-mahogony straightedged, 48" long, $20. Glue pot, used twice, $20. Conn Strobotuner, older model, $30. Aubrey Willis Course, complete, good condition, $175. Make offer any item. **R. Widmayer, Rt. 1, Box 453-C, Hawthorne, FL 32640. (904) 376-1133.**

USED SIGHT-O-TUNERS wanted. Any age, any condition. Call for quote. Also used Sight-O-Tuners for sale. Completely repaired, recalibrated, and modified by installing ten-turn Knobpots to give .1 cent accuracy. **David Pitsch, (801) 225-0156.**

FOR SALE: Exceptionally beautiful burled walnut grand, (6'x6"), by Schiedmayer & Soehne, Stuttgart. Completely restored and refinished. Photo and details on request. **Roland Grittani (JR.), 427 Waterloo, London, Ontario, Canada. (519) 434-0027.**

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PIANOS FOR SALE – Always on hand, 150 to 300 uprights! Plain case, art case, and players. Also 50 to 150 grands at all times, as is or rebuilt. Excellent brand names – no junk! All set up for inspection. Lowest possible prices. **Call for quotes: Owen Piano Wholesalers, 2152 W. Washington Blvd., Los Angeles, CA 90018. Telephone: (213) 883-9643.**

KEY RECOVERING MACHINES for sale. Prices on request. Send self-addressed envelope. Or, build your own – send $15.00 for plans, photos, instructions (refund w/purchase of machine). **Solenberger Piano Service, 1551 Lynn Court, Santa Rosa, CA 95405.**

THE BUSINESS OF PIANO TUNING AND REPAIR. A comprehensive text written exclusively for your piano tuning business and finances. "A must for every tuners library." $12.50. **ELREC INT., 3605 Artic No. 512, Anchorage, AK 99503.**

PIANO HAMMERS, PARTS & FELTS. Tuning pins and string. Highest Quality Custom Key Recovering & Bridges. **Gary R. Schmidt Piano Supplies, 228 Maple St., Cambridge, Ontario, Canada N3C 1S9.**

NEW SOUNDBOARDS. Sounding board replacement, pin block installation, down-bearing adjustment, restringing, action rebuilding and excellent refinishing. All work approached with careful consideration given to both the scientific and musical aspects of the piano in our care. Price sheet upon request. **Southwest Piano Reconstructors, Kelly Anderson, 607 E. Main, Lancaster (Dallas) TX 75146. (214) 223-1439.**

MISCELLANEOUS

COMPLETE HOME STUDY COURSE IN Piano Tuning, Regulating and Repairing. Write or call for free brochure. **Aubrey Willis School of Piano Tuning, P.O. Drawer 15190, Orlando, Florida 32858. Phone: (305) 299-3690.**

LEARN HOW TO REMOVE AND REPLACE SOUNDBOARDS YOURSELF. New handcrafted soundboards supplied by: **Victor A. Benvenuto, The Piano Shoppe, Inc. 6825 Germantown Avenue, Philadelphia, PA 19119. (215) 438-7038.**

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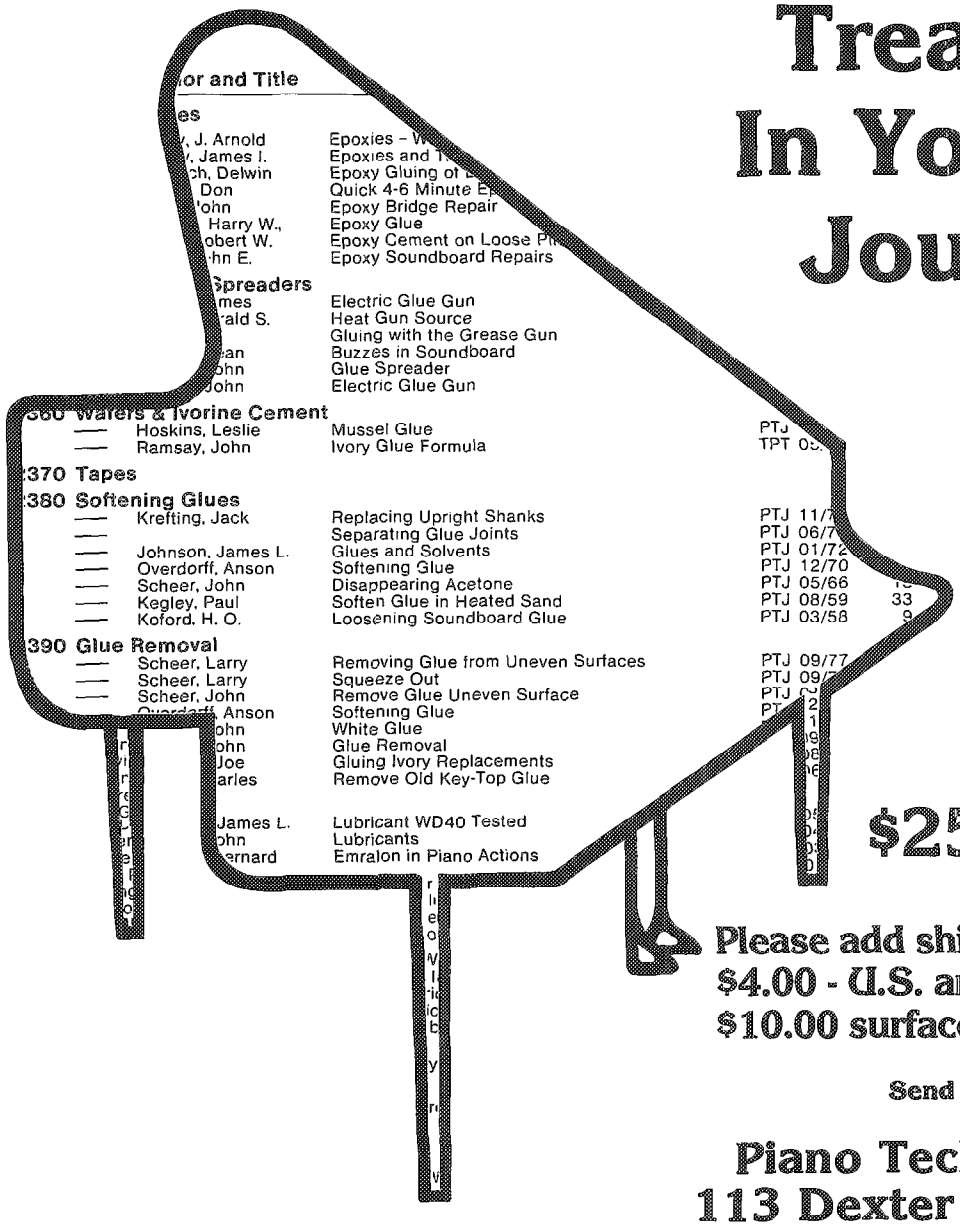
WANTED

WANTED: MASON & HAMLIN GRAND. Want one that was a player. Have player mechanism to install. Maybe interested in Steinway, Chickering or Knabe X player. **Brady, 4609 Cranbrook, Indianapolis, IN 46250, (317) 259-4305, after 5 PM (317) 849-1469.**

NOW! A Map to the Treasures In Your Old Journals



Author and Title			
Glues			
[illegible], J. Arnold	Epoxies – W[illegible]		
[illegible], James I.	Epoxies and T[illegible]		
[illegible]ch, Delwin	Epoxy Gluing of [illegible]		
[illegible] Don	Quick 4-6 Minute Ep[illegible]		
[illegible]ohn	Epoxy Bridge Repair		
[illegible] Harry W.,	Epoxy Glue		
[illegible]obert W.	Epoxy Cement on Loose Pi[illegible]		
[illegible]hn E.	Epoxy Soundboard Repairs		
Glue Spreaders			
[illegible]mes	Electric Glue Gun		
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	Gluing with the Grease Gun		
[illegible]an	Buzzes in Soundboard		
[illegible]ohn	Glue Spreader		
[illegible]John	Electric Glue Gun		
360 Wafers & Ivorine Cement			
— Hoskins, Leslie	Mussel Glue	PTJ	
— Ramsay, John	Ivory Glue Formula	TPT 0[illegible]	
370 Tapes			
380 Softening Glues			
— Krefting, Jack	Replacing Upright Shanks	PTJ 11/7[illegible]	
—	Separating Glue Joints	PTJ 06/7[illegible]	
— Johnson, James L.	Glues and Solvents	PTJ 01/72	
— Overdorff, Anson	Softening Glue	PTJ 12/70	
— Scheer, John	Disappearing Acetone	PTJ 05/66	19
— Kegley, Paul	Soften Glue in Heated Sand	PTJ 08/59	33
— Koford, H. O.	Loosening Soundboard Glue	PTJ 03/58	9
390 Glue Removal			
— Scheer, Larry	Removing Glue from Uneven Surfaces	PTJ 09/77	
— Scheer, Larry	Squeeze Out	PTJ 09/[illegible]	
— Scheer, John	Remove Glue Uneven Surface	PTJ 0[illegible]	
[illegible] Anson	Softening Glue	PT[illegible]2	
[illegible]ohn	White Glue	[illegible]1	
[illegible]ohn	Glue Removal	[illegible]9	
[illegible]Joe	Gluing Ivory Replacements	[illegible]8	
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Now, you can find the information you need — quickly and easily. It's all here in the "Classified Index to Published Piano Technology." This 293-page index can guide you to any one of the thousands of articles that have appeared over the years in the **Piano Technicians Journal** and four other publications related to piano technology.

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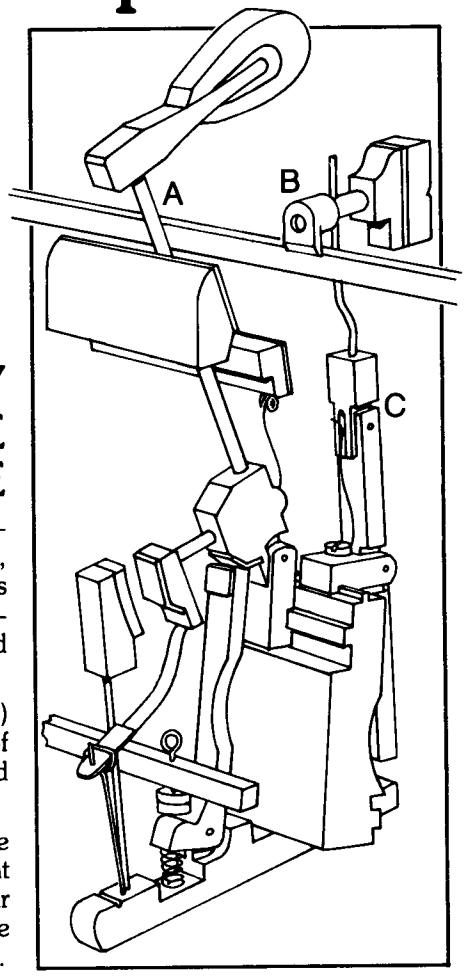
You'll find out who wrote a particular article, the title of it, the issue in which it appeared, and the page number. Then, you just grab the issue you need, and the information is yours. Quick and easy.

And, the home office of the Guild can send you a reprint of any article listed in the index that you don't have. So, how can you afford to be without it? Order your index today.

The Wurlitzer sostenuto system –so simple to service



INSTANTLY ACCESSIBLE FOR SERVICE

The sostenuto feature, a popular option on all current Wurlitzer studio, school and chapel pianos (Models 2962 and 2960), follows the principles proved in fine grand pianos and is even easier to service.

Operated from a sostenuto bar (A) actuated by the center pedal, any of 68 dampers may be picked up and held for sustained tones.

A Neoprene sleeve (B) on the damper block shaft has a lip that catches behind the sostenuto bar blade to hold the damper. Neoprene is a virtually indestructible material.

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Technicians will be pleased to know that all adjustments may be made from the *top* of the piano. It is not necessary to pull out the action.

Another fine point is our unique damper lever (C) which is made in two pieces, hinged and sprung to provide flexibility and make adjustments easier.

A new all-spruce Duraphonic Multiradial™ Soundboard improves tuning stability. In tests with up to 90% relative humidity, solid spruce expanded 5 times more than the new Wurlitzer design, causing more serious changes in string tension.

Wurlitzer Conservatoire Model 2960 with optional sostenuto meets all known school specifications. Maximum string length is 48½ inches.

As you continue to service our pianos, your comments will always be welcomed.

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DeKalb, Illinois 60115

Piano Technicians Guild
1982 April Update

Chapter Notes

We are always eager to use more in the chapter notes section.

We do require permission to print excerpts or articles taken from chapter newsletters sent to us. We should have your chapter's written authorization to use items from chapter newsletters we receive.

There is a special form CHAPTER NOTES which is available from the home office on request. Chapters may use this form to write the items they expressly wish to have considered for the Chapter Notes section of the Update.

Either procedure may be used: Send us written authorization to use items from your chapter newsletter and/or use the special Chapter Notes form to send us the specific items you want considered for printing.

Golden Hammer and Man of Note Award

The form for submitting nomination for these two awards was included in the regular mailing to all chapter presidents. PLEASE send all nominations to the committee chairman no later than April 23rd. Mail to:

DON GALT, Committee Chairman
9229 15th Avenue N.E.
Seattle, WA 98115

Dormitory Housing Available for D.C. Convention

Dormitory housing will be available for the Washington, D.C. Convention. The housing is located five blocks from the Capitol Hilton and the prices are $20.00 per night for Doubles. There will be a limited number of Singles at the same price. Two double rooms will share one bathroom. All singles share one hall bathroom on the floor.

For information and reservations, contact Ruth Ann Jordan, 4 East Granville Drive, Silver Spring, MD 20901, (301) 587-7757. Include the dates of your arrival and departure, and send one night advance deposit with reservation with the balance due by June 1, 1982.

Do You Have A Picture of Ed Menke or Dr. William Braid White?

Two men honored by the Piano Technicians Guild in the Hall of Fame whose pictures in the Hall of Fame book are not as clear as we need for the all-new 1982 silver anniversary Hall of Fame presentation.

If you know where we can obtain a good picture of either of these Hall of Fame honored gentlemen please write to Dick Bittinger, Chairman of the Hall of Fame Committee. Dick will return the pictures promptly and your help will make the award presentation event a more memorable occasion.

Guild Dues

It is gratifying to have the full cooperation of so many members who have paid their 1982 dues and are now in good standing. More than two-thirds of the membership is now fully paid-up and it is important to check your records to make sure *your membership* is in good order.

The deadline for receipt of 1982 dues is March 31st. The bylaws require all that have not paid by that date to be dropped from membership. PLEASE call or write the home office if you have unusual problems as otherwise your failure to keep in touch concerns us.

Second billings have now been issued to all who have not yet sent in their membership dues. When making a payment be sure to enclose a copy of your billing.

THE SILVER ANNIVERSARY HISTORY and CONVENTION PROGRAM

A special Silver Anniversary History and Convention Program is being produced and will be given to everyone registering at the 1982 convention in Washington, D.C. this July.

The program will contain articles, pictures and information on the achievements and historical highlights of the Guild since its formation in 1957. This will be a high quality production on dark blue linen cover stock with title and logo embossed in deep silver. The edition will be 24 pages or more on white linen finish paper. Every member will be proud to own this special 25th Anniversary printing.

A limited number will be available for sale in addition to those to be given to all who register at the convention. Orders for the Silver Anniversary Program can be made now and will be filled in order of receipt. Orders will be available at the convention for those who want extra editions for themselves or friends who cannot attend. If not picked up, mail orders will be filled after the convention.

SILVER ANNIVERSARY HISTORY AND CONVENTION PROGRAM

Please reserve _____ editions of the Silver Anniversary History and Convention Program. I enclose $5.00 for each edition.

Orders may be picked up at the convention. If not picked up, orders will be mailed after the convention.

Name _____

Address _____

City _____ State/Province _____ Zip Code _____

ATTEND YOUR PIANO TECHNICIANS GUILD SILVER ANNIVERSARY NATIONAL CONVENTION

If you wish, you can take advantage of **Money Saving Group Travel** to Washington, D.C. Silver Anniversary Convention and Post Convention.

To help you keep a close watch on expenses, we will coordinate your air travel plans with others in the same locale attending your convention. Group air rates will be used when the required number of reservations are received for the same itineraries. You are guaranteed that the lowest applicable airfare will be obtained for all reservations.

Round Trip Air Fares To Washington, D.C.

From:	Zone 1 San Francisco Los Angeles	Zone 2 Minneapolis Chicago	Zone 3 New York	Zone 4 Atlanta
Range:	$258.00 to $470.00	$258.00 to $368.00	$78.00 to $188.00	$180.00 to $310.00

From:	Zone 5 Boston	Zone 6 Miami
Range:	$138.00 to $256.00	$250.00 to $466.00

The lowest possible air fare will be used based on availability at the time of booking. Early booking is suggested to secure the lowest airfares. If the airfares decrease, the tickets will be re-issued at the lower fare.

Send in form below - we'll quote fares from your hometown.

Post Convention Tours

NEW ENGLAND $685.00

Departs Washington, D.C., Friday afternoon July 9
Ends New York City, Friday afternoon July 16

Cost per person $685.00 Share twin room basis

NEW YORK CITY 1 night
NORWICH, CONN. 1 night
BOSTON, MASS. 2 nights
Kennebunkport, Maine 1 night
North Conway, New Hampshire 1 night
Stratton, Vermont 1 night

Over 1200 miles of scenic wonderland - Berkshire Hills, Green Mountains of Vermont, White Mountains of New Hampshire, Crawford and Franconia Notches, Maine's Lakes, New England's Rock Bound Coast, Boston, Lexington, Concord, and Newport, R.I.

All Expense Trip - escorted motorcoach tour, fine hotels throughout, all meals. Tour program under supervision of TAUCK TOURS, Wesport, Connecticut.

A minimum of 25 persons required to operate this tour, cost and departure.

COLONIAL VIRGINIA AND WILLIAMSBURG

Begins Washington, D.C., July 10
Ends Washington, D.C., July 12

Cost per person $245.00 Share twin room basis

2 nights accommodations at Williamsburg Hospitality House. Private motorcoach escorted tour of the Washington and Virginia Battleground Sites, Virginia Hunt Country, Charlottsville, Montecello, and the University of Virginia. Lunch at Michie Tavern. Tour Richmond.

Visit Williamsburg sites and restoration, Old and New World Heritage Pavilions, Lunch at Stratford Hall, visit Wakefield, and return to Washington.

Escorted motorcoach touring
3 lunches included
Admissions and guide fees included
Tour under supervision of
GRAYLINE of WASHINGTON, D.C.

A minimum of 25 persons is required to operate this tour at this cost and date. If fewer than 25 persons register, the tour will still operate but at a per person cost of $257.00 share twin.

PTG Calendar

March 21-26	**MTNA** National Convention, Radisson Muehlebach Hotel, Kansas City, MO.
March 31	**DUES** must be paid to maintain good standing in the Guild.
April 1	Drop date for members whose dues are not paid for 1982.
April 1	**MEMBERSHIP ROSTER** Closing date for receipt of information on names, addresses, classification, etc.
April 10	**DELEGATES** Chapters elect delegates and alternates to the 1982 Council session, Washington, D.C. next July. Send completed credentials form to the home office.
	CREDENTIALS Closing date for receipt of completed delegate credentials forms for inclusion in the Council Agenda Book.
	REPORTS Closing date for receipt of Guild officers' and Guild committees' reports for inclusion in the Council Agenda Book.
April 15	Closing date for receipt of Sustaining Membership applications.
April-June	Bylaws presently require chapter elections to be completed by the end of June. Send notice to the home office promptly following elections.
June 5-8	**NAMM EXPO** Atlanta, GA
July 2-3	Board meeting in Washington, D.C. pre-council session.
July 4-5	Council session Washington, D.C.
July 5-9	Convention and Institutes, Washington, D.C.

February Chapter Mailing

Sent to the president of each chapter:

1982 COUNCIL DELEGATE FORM The completed form is due at the home office by April 10, 1982.

DELINQUENT AND DROPPED MEMBERS Every chapter with a member on these lists has been mailed a copy. Please be sure to check the list if your chapter receives this paper.

RESIGNATIONS LETTER Some helpful information for chapters with members who have submitted resignations.

LIST OF RESIGNATIONS Members who have already submitted resignations.

STUDENT RENEWALS List of student members whose renewal date is in the near future.

YELLOW COVER LETTER Listing mailing content.

Canadian And Overseas Members

Executive board policies require that all dues and other payments to the Piano Technicians Guild must be in U.S. funds. A cashiers check or money order from your bank will save delay in processing your account as we must return payments not made in U.S. funds. Thank you for your cooperation.

Loss of Insurance Coverage

Members who are dropped from the Guild are automatically dropped from the Guild Group Life Insurance Program, and also lose any of the other optional insurance programs they may have in force. The supplemental life insurance, accidental death and dismemberment indemnity, tool and bailees coverage and the comprehensive major health and dental insurance.

YOUR DUES PAYMENT WILL GUARANTEE CONTINUE INSURANCE COVERAGE.

Complete the information requested below and mail to:

Mary A. Murphy - Convention Travel Coordinator
c/o Compass Travel
1426 5th Ave., Suite #207
Seattle, WA 98101

Name _____ Title _____

Mailing Address _____

_____

city state zip code

Telephone _____ No. of Reservations _____

Departure City _____ Departure Date _____ A.M. _____ P.M.

Return City _____ Return Date _____ A.M. _____ P.M.

Are you planning to attend Post Convention? Check Preference:

Colonial Virginia _____ New England _____

Chapter Notes

At the ***Los Angeles Chapter*** February meeting, President Richard Davenport handed out "Antitrust Guide For Members" cards, which contains very important information for all Piano Technicians Guild members. He also presented the name of Bill Salcan for "Associate Membership," who was unanimously voted in.

Our "Technical Appetizer" was given by Allan Slater, who spoke for ten minutes on "Preparation for Tuning." He did a great job in those ten minutes. The "Technical Session" was given by Harry Berg on the subject: The Piano Technicians Guild Code of Internal Ethics. Questions and answers followed. The closing part of the program was a film on: "Removing and Replacing Spinet Actions."

—Harry Berg

*The **Western Michigan Chapter's** February Newsletter offered some good points on dinner meetings . . .* The dinner meeting in January, held at Finger's Restaurant, was a worthwhile success. It was good to notice a comparatively large turnout, and by the comments I heard, everyone seemed to enjoy the evening.

There is one comment which was voiced by many that deserves our consideration. That is, in the future the moderator/host should limit the speaking time for each person participating in the round table discussion. Perhaps three or five minutes is sufficient time to speak, to make a point. Depending on the speaker's subject content, size of the attendance, this time limit could be adjusted to fit the particular situation.

Also, chapter secretary John Dragone is in favor of promoting more chapter meetings where a dinner of some sort is included *as part of* the meeting. This type of meeting as he points out, would offer more positive inducements for those traveling long distances. The proof of this can be exemplified by the two meetings at Big Rapids hosted by Mr. and Mrs. Robert Lutzke, and of course, the recent dinner meeting at Finger's Restaurant. The results were again comparatively large turnouts.

In certain circumstances, John asks why not have the dinner catered at the shop or home of whomever gives the meeting? Or, what if those attending a given meeting brought a salad or dessert to pass? What about using some of our chapter funds to help defray expenses? He strongly urges the membership to consider these worthy suggestions and he will be glad to offer his assistance.

—Charles Gibson III

The January meeting of the **Orange County Chapter** was well attended with eighteen Piano Technicians Guild members and eight guests present. Our business meeting was disposed of rapidly so that we could proceed to the January program.

Our January program featured George Defebaugh, "Hammers, from the cradle to the grave." George's presentation was complete with slides, models, samples, demonstrations and every other training aid he could produce. It was a great presentation and very well received.

Francis Mehaffey gave us a preview as to some of the events to look forward to at the upcoming convention. Brian DeTar also gave a breakdown on taking the test such as utilizing all time allowed.

—Charles F. Sanders

The **Atlanta Chapter** had a record-breaking attendance for a January meeting; twenty-five at the Day-Robinson Piano Company in Duluth. Between the interest shown in the technical presentations and the Day-Robinson facilities, the meeting could have gone on well past midnight.

The Atlanta Chapter has four new Certified Technicians, thanks to the fine efforts of Don Strong, Southeast Regional Tuning Examiner. Harry Cardwell, Emmett Daudelin, Larry Miller and Tim Reed went to Shorter College in Rome on Sunday, January 17th for the exam, together with Larry Crabb and Steve Cox who served as co-examiners. Don, Larry and Steve put in a super long day to accomplish the marathon. We want to thank these gentlemen for making it possible.

Wurlitzer Seminar Held In Portland, Oregon

Wurlitzer representative Ric Sletten, conducted a highly informative and interesting seminar for Piano Technicians on February 4, at Day's Music Co. in Portland, Oregon.

The audience of approximately thirty technicians was greatly appreciative. Several of the technicians traveled a round-trip of over three hundred miles to attend.

The topics covered included complete service instructions for all Wurlitzer pianos, including all models new and old. The rapport was good between the audience and Mr. Sletten and it was an excellent learning situation for the experienced as well as the new technicians in the field. Ric Sletten is a very capable instructor and we would like to thank the Wurlitzer Company and Mr. Sletten for a well-done program.

—Vinton Snyder
Secretary-Treasurer
Eugene, Oregon Chapter

International Association Piano Builders & Technicians

Contributions For 1980:

8/26	David Krystall
8/4	Daniel Evans
9/9	Kelly Ward
9/29	Robert Lutzke
10/2	Jim Lutzke
10/11	Lloyd Cotten
10/23	Dean Howell
10/23	Marty Hess
10/23	Fred Odenheimer
10/23	Walter Pearson
10/27	Ernie Preuitt
10/28	Orman Pratt
11/14	Donald Strong
11/19	Richard Doerfler
11/25	Harry Berg
12/2	Don Foli
12/10	Herbert Sorg
12/22	Larry Crabb

Contributions For 1981:

1/13	George Defebaugh
1/13	David Sylvester
1/26	Charles Herbert, Jr.
1/26	Allyn Winslow
1/28	Richard Flegle
1/28	All Metro Tuning
1/28	Sid Stone
1/28	John Wiley
1/29	Jim DeRocher
2/9	Jouko A. Kurra
2/9	Hilton White
2/9	Pauline Glumac
2/4	Doug Denham
2/9	Matt Grossman
2/19	Johan (Hans) Krebs
2/24	Wurlitzer Corp.
3/23	Robert Wagoner
3/26	Peter De Laurenti
4/14	Marcus Pierce
4/14	Clifford Johnson
4/29	D. Elwyn Lamb
9/14	Robert Lutzke